

BIBLIOGRAPHICAL NOTICES.

ART. XVI.—*Surgical Anatomy.* By JOSEPH MACLISE, Fellow of the Royal College of Surgeons, of England. Part V.: Blanchard & Lea, Philadelphia, 1851.

WE have, in several of the preceding numbers of this Journal, laid before our readers a sketch of the contents and character of Mr. Maclise's book, as the successive parts were published. The fasciculus now before us forms the conclusion of the work, and we take pleasure in announcing the topics which it embraces.

The last plates of the fourth part exhibited numerous representations of mal-conditions of the urinary and generative organs of the male. Additional illustrations, sixteen in number, of organic derangements of the urinary bladder, are displayed in the first two plates of this portion of the book. The author assures his readers that these drawings have been taken by himself from morbid specimens contained in the museums and hospitals of London and Paris. The bladder is shown as deformed by *sacculi*, due to protrusions of the mucous membrane between fasciculi of the muscular coat of the organ,—occasioned either by the opening of abscesses into its cavity, or by the efforts of the bladder to expel its contents in spite of the existence of some obstacle at or about its neck. These impediments are shown to be calculous concretions, enlargement of the prostate gland, stricture of the urethra, or polypi. These anatomical appearances are explained in the text; and, in addition, the author describes the operations for sounding, for the evacuation of the bladder by the use of the catheter and by puncture.

Plates 65 and 66 display the surgical dissection of the posterior crural region and the popliteal space; representations of the upper part of the lower extremity were given in one of the early numbers of the book. We have here a very accurate exposition of the anatomical peculiarities of this important surgical region. And, in speaking of the ordinary state of the parts, Mr. Maclise does not forget to lay proper stress upon anomalies of arrangement.

The anterior crural region, the ankles, and the foot are exposed in the next two drawings.

The concluding chapter is somewhat general in its view, being devoted to the consideration of the vascular system as a whole. The points in it which are of chief interest are, the anomalous positions and arrangements of the heart and principal arteries, and the formation of collateral vascular communications. These subjects are discussed with the fulness of detail and the philosophical spirit which Mr. Maclise's writings generally exhibit.

As we before mentioned, this excellent treatise on surgical anatomy is now completed. It consists of 150 double-columned pages of comments upon 68 colored plates. The drawings are remarkably good, much superior, we think, to any anatomical plates which have hitherto been published in this country. They are large, clear in their exposition, and admirably designed to show what they profess to exhibit. The comments upon them are very judicious, excepting an occasional fancy flight into the regions of transcendental anatomy. They are, with this exception, precisely such descriptive remarks as are available to a surgeon, not too minute and yet sufficiently detailed, unfolding to his view the important features of the different regions of the body upon which he may be called to operate, without bewildering him by a useless, if not hurtful display of nervous and vascular ramifications. Mr. Maclise must certainly experience great satisfaction from the high commendation which his labors have received from our profession in his own country, and we feel confident that equal praise will be awarded to him here, by all who shall be so fortunate as to have his work in their libraries.

We would not conclude our remarks upon this volume without acknowledging our sense of indebtedness to Messrs. Blanchard & Lea for the handsome manner in which it has been republished. The paper, the printing, the drawings, the binding, are all excellent. We hope, sincerely, that it will find such appreciation that the publishers shall be thereby induced to issue all their succeeding works in the same admirable and readable guise.

F. W. S.

ART. XVII.—*Elements of Physiology, including Physiological Anatomy.* By WILLIAM B. CARPENTER, M. D., F. R. S., F. G. S., &c. &c. Second American, from a new and revised London edition; with one hundred and ninety illustrations. 8vo. pp. 566: Philadelphia, Blanchard & Lea, 1851.

THE present work of Dr. Carpenter is one well adapted to fulfil the leading object of an elementary text-book—to furnish to the student a general, but at the same time clear and accurate outline of "those principles of physiology which are based on the broadest and most satisfactory foundation," and to indicate to him "the mode in which those principles are applied to the explanation of the phenomena presented by the living actions of the human body." In this manner preparing the way for "that more detailed study of the latter, which becomes necessary when physiology is pursued, as it ought to be, in connection with the changes produced in the living body by morbid and remedial agents, and is thus taken as a guide in the study of the causes, prevention, and treatment of disease—which should be the primary object of attention with every one who undertakes the practice of his profession."

The work is well and accurately prepared, presenting a faithful and intelligible outline of the science of physiology, according to the present state of our knowledge in respect to it.

The edition from which the one before us is printed, has been carefully revised by the author; such statements as the advance of science has shown to be doubtful or erroneous have been omitted or corrected, and a considerable amount of new matter has been introduced; of the first, eleventh, and twelfth chapters, especially, a considerable portion has been entirely rewritten.

The first chapter embraces an exposition of the author's views of the correlation of the vital and physical forces. As we believe these views to be most important, tending, as they do, much to the simplification of physiology, and, in their further development and extension, to the improvement of pathology and therapeutics, we present here their general summary as drawn up by Dr. Carpenter.

"We only know of *life* as exhibited by an organized structure, when subjected to the operation of certain *forces* which call it into activity; and we only know of *vitality*, or the state or endowment of the being which exhibits that action, as conjoined with that particular aggregation and composition which we term organization. We have seen that the act of organization, and the consequent development of peculiar properties in the tissues which are produced by it, can only be attributed to the vital force of a pre-existing organism; and hence it is, that whilst the operation of physical forces upon an organized body gives rise to vital phenomena, no such phenomena can be manifested as the result of their action upon any kind of inorganic matter. It is, in fact, the *specialty* of the material instrument thus furnishing the medium of the change in their *modus operandi*, which establishes, and must ever maintain, a well marked boundary line between the physical and the vital forces. According to the views here propounded, the vital force is as different from heat or electricity, as they are from each other; but just as heat, acting under certain peculiar conditions, is capable of transformation into electricity, whilst electricity is capable, under certain other conditions, of being metamorphosed into heat, so may either of these forces, acting under conditions which an organized fabric alone can supply, be converted into vital force, whilst, in their turn, they may be generated by vital force.

"Starting, then, with the abstract notion of one general force, we might say that this power, operating through inorganic matter, manifests itself in those phenomena which we call electrical, magnetical, chemical, thermal, optical, or mechanical; the agents immediately concerned in these being so connected by the relation of reciprocal agency, or correlation, that we must regard them as fundamentally the same. But the very same force or power, when directed through organized structures, effects the operation of growth, development, metamorphosis, and the like; and is further transformed, through the instrumentality of the structures thus generated, into nervous agency and muscular power. If we only knew of heat, for example, as it acts upon the organized creation, the peculiarities of its operation upon inorganic matter would seem no less strange to the physiologist than the effects here attributed to it may appear to those who are only accustomed to contemplate the physical phenomena to which it gives rise. Of the existence of force or power, we can give no other account than by referring it, as we are led by our own consciousness to do, to the exertion of a will; and this unity among the forces of nature is the strongest possible indication of the unity of the will of which they are the expressions. And further, the constancy of the actions which result from them, when the conditions are the same—that is, their conformity to a fixed plan, or, in the language commonly employed, their subordination to *laws*, indicates the constancy and unchangeableness of the divine will, as well as the infinity of that wisdom by which the plan was at first arranged with such perfection, as to require no departure from it, in order to produce the most complete harmony in its results.

"So, also, if we endeavour to assign a cause for the existence of a cell germ, we are led, at first, to fix upon the vital operations of the parental organism by which it was produced; and for these we can assign no other cause than the peculiar endowments of its original germ, brought into activity by the forces which have operated upon it. Thus, we are obliged to go backwards in idea from one generation to another, and when, at last, brought to a stand by the origin of the race, we are obliged to rest in the Divine will as the source of those wonderful properties, by which the first germ developed the first organism of that race, from materials previously unorganized, this organism producing a second germ, the second germ a second organism, and so on without limit, by the uniform repetition of the same processes. Yet we are not to suppose that the *continuation* of the race is really in any way less dependent upon the will of the Creator, than the *origin* of it. For whilst science leads us to discard the idea that the Deity is continually *interfering* to change the working of the system he has made, since it everywhere presents us with the idea of uniformity in the plan, and of constancy in the execution of it, it equally discourages the notion entertained by some, that the creation of matter endowed with certain properties, and therefore subject to certain actions, was the *final* act of the Deity, as far as the present system of things is concerned, instead of being the mere *commencement* of his operations. If it be admitted that matter owes its origin and properties to the Deity, or, in other words, that its *first existence* was but an expression of the Divine will, what is its *continued existence* but a continued operation of the same will? To suppose that it could continue to exist, and to perform its various actions, *by itself*, is at once to assume the property of *self-existence*, as belonging to matter, and thus to do away with the necessity of a Creator altogether, a conclusion to which it may be safely affirmed that no ordinarily constituted man can arrive, who reasons upon the indications of mind in the phenomena of nature, in the same way as he does in regard to the creations of human art."

Doctrines precisely similar to those, the summary of which is given in the foregoing paragraphs, have been taught for several years back by Dr. Jackson, in his lectures on the Institutes of Medicine, in the University of Pennsylvania, and were announced in a discourse published as early as 1837. The proposition was then laid down, that the *same causes and actions* "which in inorganic bodies constitute physics, in inorganic bodies constitute physiology, or, as it may be more aptly termed, *organic physics*."

To do justice to the views that have been maintained by Dr. Jackson in his

lectures for the last eight years, we present the following extracts from a discourse recently published by that gentleman:—

“The force presiding over the production of plastic matter is the same as the chemical force of organic bodies, and the primary and common organic form, a cell, may, as Mulder states, be the inevitable consequence of the special material. But whence come the special organic forms, so numerous, it may be said endless; so diversified and complex, yet always the same, and constructed on a plan perfect of its kind, and expressive of an ideal conception of the highest intelligence? Is it possible to regard the organic forms of living beings, bearing the impress of ideas that could originate only in the profoundest knowledge, and the very supremacy of wisdom, as proceeding from a force identical with chemical or physical forces, or any mere material force, or a necessary result of any material condition?

“Employing the term force in its philosophical sense, as the expression of an unknown cause, I have been accustomed to ascribe this class of phenomena as exclusively belonging to organic force, or the radical force of life.

“The special character of organic or radical force of life, if this view be correct, is modality, or the power of creating organic forms, the instruments and mechanisms of life. It possesses none of the attributes of the physical forces in its actions and influences. It has no identity with them; yet there is undoubted correlation.

“Forms are immediately connected with matter, and organic forms with special protoplasms. These organizable materials are the product of chemical actions and play of chemical force, while this special direction of chemical force is depending on a definite temperature 98° to 100° in warm-blooded animals.

“Again: organic matter is always the product of living beings; is prepared in organic or life instruments, under the chemical force which can accomplish those combinations only under the condition of a living organ endowed with organic force.

“The correlation is evident. There exists a chain of sequences, each one of which is an indispensable link, necessary to the creation, in a material form, of an ideal type. But correlation and intimate dependency do not constitute identity of nature. A clear distinction is apparent between the force that prepares, by a chemical action, the material for constructing an organ or instrument, and the force that forms an ideal plan of the instrument or organ, and constructs it of this material.

“Examples illustrating this proposition are furnished by the eye—an optical instrument; by the ear—an acoustic instrument; by the heart—an hydraulic engine; and the lungs, a pneumatic apparatus. Each of these is formed of numerous pieces, adjusted with the nicest precision, and adapted to perform a particular part necessary to the completion and working of the instrument. The material of which each separate piece is formed is special to that piece, yet has been derived from one common source, the blood, in which it did not exist. The organization or structure and the form are totally different in each, even at the point where they are in direct conjunction, and by no other structure or form could the especial organ or instrument be constructed. Complex results like these are not compatible with mere nutrition or growth.”

“The phenomena unquestionably the most characteristic of organic nature, are, the perpetual production of special organic matters, and repetitions, in successive generations, of the same typical forms, infinite in number and variety, expressed in the organization of living beings. Organic forms have continued through all time unchanged, invariable under the same circumstances, the offspring being the representatives of the parents.

“These forms, evolved from a formless organic matter, were the first manifestations of the Divine Thought in the creation of the organic world. They emanated from the creative power of the Supreme Intelligence, moulding in material forms the ideal of the Eternal Mind.

“The present repeats the past. Organic forms proceed from formless plastic matters now, as at the beginning. Creation has never ceased; creative power has never intermitted its activity; organic forms are being incessantly evoked from a chaos of formless organic matter.

"The most striking and familiar feature distinguishing organic forms, at once mysterious and indefinable, is the permanency of the created form, while the material expressing that form is the most unstable and transitory of substances.

"The form is maintained undisturbed amidst incessant vortices of atoms and endless storms of molecular actions, by which the materials of organic forms are chemically decomposed and recomposed. Two forces are in incessant antagonism: the organic typical or modal force, creative and preservative of the organic form, and the chemical forces of the material molecules, that keep the substance of the form in endless change. The force that thus controls molecular actions, and impels them to evolve from matter typical organic forms, the ideal of creative intelligence, is an exclusive attribute of organic nature. It is transmitted from generation to generation, and is the endowment of the germ. Germ force, and organic force, are identical.

"Of all the mysteries in the midst of which, unconscious of them, we exist, none are more profound, deep, and inscrutable, than the mysterious attribute of the germ, constituting its proper force.

"The germ is the sole link existing between generation and generation, from the first dawn of creation to the present. It imparts perpetuity and unity to the families and races of the organic world. For while individuals perish and die, the race continues unbroken in a single and endless existence. The organic characteristics that separate and distinguish the class, the order, the genus, the species and varieties of all organic beings, have descended unchanged through countless generations. And yet further, from parents are conveyed to offspring the individual peculiarities of constitution, temperament, resemblance, mental faculties, and disposition, hereditary diseases, and existing taints or vices of blood. Through what medium is effected this transmission of various organic influences? It can be no other than the germ, for it is the only existing point of connection. Are we not presented, in this series of extraordinary yet incontestable facts, the demonstration that in the germ the forces of organic nature are concentrated?

"When we reflect on what is known of the germ, the mind is bewildered and amazed in the contemplation of such extraordinary phenomena. The germ is a microscopic speck, requiring a magnifying power of some four hundred diameters to bring it within the range of distinct vision. Though of this minute size, it is a complex product, resulting from the union of a male and female generative principle, which, as demonstrated by Mr. Newport's experiments, may result from their contact for two seconds only, and at most of five or six."

"The initial phenomena of life—production of organizable matter and organic forms—are reiterated throughout existence. They constitute alone the sole phenomena that can, with correct logic, be termed life, or organic actions. In every tissue, while its vital activity is in operation, its special organizable material and its special form are incessantly being produced.

"The force that presides over and directs these actions preserves the integrity of the organs and their functions during life. It opposes a resistance to all disturbing agents, successfully, if they be not armed with too great power, or itself has not been enfeebled by accidental circumstances, which constitute predisposition to disease: and when morbid causes have been removed, or their actions have ceased, it restores the organs to a natural condition. The organic germ, or formative force, shows itself to be what has been recognized as the 'vis medicatrix naturae,' or known by other similar designations. This force must be the reliance of the physician for the successful treatment of disease. It is the principal business of the practitioner to remove the impediments that interfere with, disturb, or suspend the conditions or laws of life action, the recuperative laws of the economy, and thus enable the organic force to re-establish the organic or vital actions in their normal state.

"From this analysis of organic phenomena, it is impossible to refuse the inference, that typical forms are the most prominent feature of organic nature. Phenomena so constant, diverse yet invariable, the mind, by its instinctive proofs of causation, assigns to the operation of an unknown cause, a force,

precisely as by causation it refers the phenomena of caloric, electricity, gravity, and magnetism, to unknown causes or forces.

"Taking this view of the subject, I must dissent from the opinion of Dr. Carpenter, who regards organic forces as identical with the physical forces. No one can deny their correlation; but no phenomena of the physical forces have analogy or resemblance to the persistent maintenance of typical forms amidst the eternal commotion and vortices of the atoms of organic matter in its eternal circle of decomposition and recombination, the constant phenomena of organic actions.

"I feel compelled, from the preceding considerations, to assert the existence of a peculiar organic or vital force, exclusively manifested in organic or living beings, the dominant principle of organic or vital actions, and the generator of typical organic forms.

"The second class of phenomena that have been regarded as organic is entirely different in nature and character. It is the nervous force, or excito-motor force, the direct excitant of muscular contractility. It has acquired this distinction of a vital force from the necessity of the mechanical power of muscular action in the respiration of the warm-blooded vertebrata, breathing with lungs.

"The action of the respiratory muscles is determined by the respiratory ganglia of the medulla oblongata. The phenomena are dynamic, and not organic; the force producing it has the strongest analogy to electricity, though, as yet, their identity has not been completely established.

"That this force is not an organic force is clearly apparent. It is limited to a part of living beings. It has no existence in the vegetable kingdom, and is found necessary to sustain, and that only indirectly, the organic or vital actions in the warm-blooded vertebrata alone. It is a function of an apparatus, and not a radical force or principle; and that apparatus, the respiratory ganglia seated in the medulla oblongata, becomes a vital centre, the pivot on which turns the machinery of life in those animals and man, solely from the necessity of oxygen as a chemical agent in the evolution of animal heat, and in effecting changes in organic matter.

"The nervous force is so closely allied to the physical forces that it must be classed with them. Between the phenomena of sensibility, consciousness, will, the intellectual and moral faculties, and those of nervous motor force, of the physical and organic forces, there is an entire absence of similitude or analogy; they are so wholly distinct and dissimilar, it is impossible to conceive the remotest approach to identity.

"The nervous force belongs to dynamics, and is the spring of animal mechanic power; it is the source of the automatic or involuntary actions of the animal economy, presiding over its material conservation. Mind is the essence of man. Through it he possesses a spiritual nature, and an existence in the ideal; it disunites him from matter, and associates him with the immaterial; it enables him to comprehend, in thought, the existence of God the Supreme Creator of the universe: it endows him with the capacity of conceiving the divine idea in the plan of the universe, and of the laws of nature, the instruments by which that plan is perfected, by contemplating and studying the phenomena of which it becomes conscious through its perceptive faculties. Possessing this knowledge, man subjecting nature to his uses, and compelling her laws to execute his designs, has created a social, moral, political, and physical world; a world of arts, sciences, and philosophy, in the midst of which he dwells, and over which he has unbounded sway.

"Attributes thus super-eminent, and relations thus superlative, can have no identity with matter or physical forces. These strongly attest that mind, capable of penetrating to the Divine thought, and thereby acquiring, to a certain extent, a creative power over the material world, must partake, in an imperfect manner, of the nature of the Supreme Intelligence.

"The distinction between nervous force and mind is as marked as that of the steam force of the locomotive, impelling its movements, and the engineer, who controls and guides it."

By comparing this extract from the recent published lecture of Professor

Jackson, with that previously given from the work of Dr. Carpenter, the reader will perceive the close resemblance—we had almost said identity—for the difference, if any, is rather in words than in ideas—of the views entertained by these two gentlemen in reference to the correlation existing between the vital and physical forces. Similar views are beginning to be entertained by several of the distinguished physiologists of continental Europe. As early as 1845, the correlation and identity of physical and vital forces was promulgated in Germany by Dr. Mayer, of Heilbronn; and Professor Grove in the second edition of his "Correlation of Forces," published in 1850, makes the following remarks: "I believe that the same principles and mode of reasoning as have been adopted in this essay, might be applied to the organic as well as to the inorganic world, and that muscular force, animal and vegetable heat, &c., might, and at some time will, be shown to have similar definite correlations."

The adoption of similar views on this important subject by individuals unconnected with each other, and evidently unacquainted with the results arrived at by the others, is a strong *prima facie* evidence of the foundation of those views in truth.

D. F. C.

ART. XVIII.—*A Practical Treatise on the Diseases of the Lungs and Heart, including the Principles of Physical Diagnosis.* By WALTER HAYLE WALSH, M. D. 12mo. pp. 512: Philadelphia, Blanchard & Lea, 1851.

EIGHT years ago, Dr. Walshe's work on "The Physical Diagnosis of Diseases of the Lungs" was noticed in this Journal. The volume before us contains, in its first part, an enlarged and amended edition of the earlier work; a complete system of physical diagnosis of diseases of the heart, and a systematic description of pulmonary and cardiac affections, follow, and form two-thirds of the entire treatise. The number of works devoted to the same subjects which have been published of late, render unnecessary, and unprofitable, a complete analysis of the one before us, and we shall therefore confine the reader's attention to those points on which it may be interesting to know the results of Dr. Walshe's observation, and the grounds upon which the opinions of so accomplished a diagoastician rest. These circumstances will account for the somewhat desultory and disjointed character of the remarks which it is proposed to make.

The difficulty of making accurate circular measurements of the chest must have been felt by every one in cases where the patient is unable to quit the recumbent posture. It may be entirely removed by the expedient which Dr. Hare suggested—

"That of joining together two graduated tapes at the commencement of their scales, and fixing them, as the patient reclines, at their line of union to the spine: each side of the chest has thus its separate measure."

The author does not approve of the percussor, in the form of a hammer, the invention of Dr. Winterich of Wurzburg, which many continental physicians employ, and which has been recommended in England by Dr. Hughes Bennet. During the last winter, we had repeated opportunities of witnessing its employment by Skoda, and other teachers in Vienna, and can testify to its great superiority over the fingers, used for the same purpose, especially for the instruction of large classes in hospitals. The sounds which the pleximeter emits, when struck by this instrument, are incomparably louder and more distinct than any which the hand alone can elicit, and we are persuaded that it will be found a valuable aid to all who practice percussion.

The whole subject of percussion is elaborated by Dr. Walshe with a degree of fulness and precision which leaves nothing to be desired; indeed, if one were not familiar with the wonderfully accurate results of this means of diagnosis, the description might be taxed with excessive minuteness. Any one who is disposed to distrust the mechanical processes of percussion and of auscultation, will find, on perusing our author's account of their uses, that they in fact tax

the reasoning powers to the utmost, in arranging and comparing the phenomena revealed by them, and in drawing those precise conclusions which distinguish this department of pathology above all others.

The results of auscultation as a means of diagnosis are detailed at great length and with a surprising amount of illustrative matter. The theory of each several sound is also amply and perhaps too minutely discussed. We observe that the author still adheres to the notion that the crepitant ronchus is generated externally to the pulmonary cells, by their unfolding during inspiration, and not as suggested by our countryman, Dr. Carr, of Canandaigua, N. Y., by the separation of the opposite and adherent surfaces of the interior of the pulmonary cells, during the same act. He does not furnish any grounds for his hypothesis which would not afford a firmer support to the other opinion. One might be disposed to reject the former unconditionally, were it not proved that the presence of air is not essential to the generation of a form of subcrepitant ronchus.

Thus, in a case of phthisis, terminating in general dropsy, the author found "an extremely abundant subcrepitant ronchus occurring almost in puffs," in the entire height of the left side posteriorly. Yet, on examination after death of the patient, the left lung was found to be indurated and particularly dry, and separated from the walls of the chest, by "a quantity of fine adventitious cellular tissue, abundantly infiltrated with liquid." This form of ronchus, which is described as either *squashy* or *crackling*, is not affected by coughing, and is usually attended by friction sounds, which circumstances serve to distinguish it from the true parenchymatous ronchus which it resembles.

The article on "Modified Resonance of the Voice" contains a very elaborate and interesting account of the diagnostic value of this sign, with an examination of the various hypotheses which have been framed to account for its phenomena, but without satisfactorily explaining all its peculiarities. A very common mistake, that of confounding the natural resonance of a shrill voice with *egophony*, is pointed out, as well as the manner of avoiding it. The former exists in pleurisy, where dulness is greatest; the latter, where the stratum of fluid is thin; the one, therefore, near the base of the lung, the other at its root.

In the account given by our author of the mechanism of the heart's sounds, he labours under the difficulty felt by all writers who attempt to explain the action of the heart according to the theory taught by Dr. Hope, and commonly received in this country. As this theory denies to the auricle any share in the impulse which the heart makes against the ribs in many cases of hypertrophy, and even in health, its advocates are obliged to resort to the most extravagant suppositions to explain certain morbid phenomena. Having elsewhere in this Journal recorded the objections to this theory (see No. for July, 1846, p. 174, &c.), which we entertain, it is unnecessary to repeat them here, only remarking that the lapse of time has not diminished our confidence in their validity. It is because we regard the author's theory of cardiac sounds as far from being demonstrated, that we here renew our objection to the use of the terms "systolic" and "diastolic" when applied to cardiac murmurs. It seems to us that the phrases "in the first sound," "in the second sound," &c., although somewhat more unwieldy, are much preferable, because they merely designate the sensual relations, without assuming any theory of the mechanism, of the normal sounds. Whoever does not accept the author's theory of the murmurs will find the accompanying nomenclature a serious obstacle to applying his explanation to the phenomena presented by an obscure case of valvular disease.

The account of diseases of the lungs and heart, contained in Part II., has reference chiefly to their physical signs; their general symptoms and treatment are very summarily presented. To have done more would have been beside the author's purpose, and we only allude to the fact to prevent disappointment on the part of those who may expect to find in the work a complete "Practice of Medicine" for the diseases to which it relates.

Speaking of the prognosis in acute pleurisy, Dr. Walshe makes the following statement, which deserves consideration by those who regard the disease as demanding bleeding, blistering, mercurials, and the whole armament of antiphlogistics. "Death is so rare a result of the disease when attacking individuals

free from organic affections, that I have neither myself (and I have carefully attended to the point since my attention was first drawn to it, years ago, by M. Louis) lost a patient from pure primary idiopathic pleurisy, with or without effusion, nor known of an occurrence of the kind in the practice of others."

In some cases, where neither the sputa nor the ronchi indicate the existence of pneumonia, or, at least, not at the moment of examination, the ratio of the pulse to the respiration is a valuable sign; for an amount of pneumonic solidification capable of suggesting doubt, will make the respiration half or even three-fourths as frequent as the pulse, but such a perversion has never been met with in pleurisy by Dr. Walshe.

The author insists upon the use of blisters to remove pleuritic effusions which continuo *after* the subsidence of fever, but his precept for employing them is all important. Allowed to produce copious suppuration, as they sometimes are, they tend to light up fever anew, but when "made of large size, applied in different situations, not kept on longer than is just sufficient to produce vesication, and every means used to secure the healing of the blistered surface," they unquestionably hasten the absorption of the effused fluid in a very remarkable manner. They are not less useful under these circumstances than they are mischievous during the febrile stage of the attack.

Although Dr. Walshe does not eulogize, as much as some late writers have done, the operation of paracentesis in cases of stationary or increasing effusion in the pleura, he nevertheless considers that its results entitle it "to being numbered among the most valuable gifts of surgery." His qualified eulogy of this remedy arises from the circumstance that, in most reports of its success, all sorts of cases, simple and complicated, are "clubbed together." We would observe, however, that this imperfect classification rather tends to derogate from the value of the operation than to exaggerate it. Unquestionably, had all the cases been instances of simple chronic pleurisy, the results would have been more favourable than they are actually represented to be. As our author observes, the quality of the effusion, and the state of the conservative functions, influence very strongly the results of the operation. He blames the delay which so often renders the operation inadmissible, or greatly diminishes the chances of its success, and concludes that "the fitting time for operation has come when a tendency, insuperable by medical means, exists either to increase or to non-absorption of the fluid." It is unnecessary to follow him in the description of the operation. He advises the closure of the wound after the first evacuation of the fluid.

The chapter on Pneumonia is remarkably full and satisfactory, as might be expected when so capable an author describes a disease which has been so thoroughly investigated. A statement of much importance is that, according to the author's experience, "if the expectoration in pneumonia be actually bloody, the pneumonia is tuberculous." In the treatment of the disease, he considers that they are no barriers to venesection provided the type of the attack is sthenic. Neither age, pregnancy, nor menstruation, is a contra-indication, nor any *period* of the disease too late for blood-letting, "provided the indication be thoroughly established on general principles." The author seldom bleeds more than twice, taking sixteen ounces the first, and some ten or twelve the second time. Of tartarized antimony with capping, as a substitute for general bleeding, he would choose the former, but prefers both. He does not find any evidence that *toleration* is an index of the usefulness of antimony. The dose, at first, should be "half a grain, combined with dilute hydrocyanic acid, paregoric, and tincture of orange peel, every hour for the first three or four hours, and then increased, at intervals of two hours, to one grain; in the course of twelve hours, the quantity may be raised to two grains, and its repetition made less frequent, say every fourth hour." Mercurials are, in our author's opinion, desirable in those cases only where antimony is inadmissible. Blisters he approves of, in the more advanced periods of the affection, to relieve pain and dyspnoea.

The chapter on "Hemorrhage and Haemoptysis" contains some valuable evidence on the question of the connection of haemoptysis with tubercle in adults. We have not room to present even an epitome of these statements, but especially desire to direct attention to them, as proving most clearly "the vast frequency with which haemoptysis is in some manner or other attendant on tuberculous

disease." Among the means of arresting excessive pulmonary hemorrhage, the author speaks of the *cautious* application of ice in bags to the spine, and over the heart, as often arresting instantaneously the flow of blood.

Phtisis is very fully and clearly discussed by Dr. Walshe. "The physical signs of arrested phtisis," he remarks, "have never yet been systematically examined." No wonder, indeed; for how few, alas! are the cases which can be presented to illustrate this state, which but for recent experience one might, without much violence to truth, rank among things chimerical. The following are among the phenomena of this condition, which the author has observed. In one case notable depression, supra and infra-clavicular; imperfect expansion; very weak, harsh respiration; dulness under percussion; exaggerated fremitus, and strong vocal resonance; a deep, creaking sound on respiration. Respiration of a laboured, jerking rhythm; hollow, dry, cavernous respiration, variously combined with the signs already enumerated, were observed in cases, which, at an earlier period, had presented all the evidences of tubercular softening in the lungs. The diagnosis of this most common and most fatal of all non-malignant chronic diseases is so interesting and important, that we offer no apology for quoting at length the summary which our author gives of its elements.

"A young adult, who has had an obstinate cough, which commenced without coryza, and without any very obvious cause, a cough at first dry and subsequently attended for a time with watery or mucilaginous-looking expectoration, and who has wandering pains about the chest, and loses flesh even slightly, is in all probability phtysical. (b) If there be haemoptysis to the amount of a drachm even, the diagnosis becomes, if the patient be a male and positively free from aneurism and mitral disease, almost positive. (c) If, in addition, there be slight dulness under percussion at one apex, with jerking or divided and harsh respiration, while the resonance at the sternal notch is natural, the diagnosis of the first stage of phtisis becomes next to absolutely certain. (d) But not absolutely certain: for I have known every one of the conditions in a, b, and c, exist (except haemoptysis, the deficiency of which was purely accidental), when one apex was infiltrated with encephaloid cancer, and no cancer has been discovered elsewhere to suggest to the physician its presence in the lung. (e) If there be cough, such as described, and permanent weakness and hoarseness of the voice, the chances are very strong (provided he be non-syphilitic) that the patient is phtysical. (f) If decidedly harsh respiration exist at the left apex or at the right apex behind, if the rhythm of the act be such as I have called *cogged-wheel*, and there be dulness, so slight even as to require the dynamic test for its discovery, there can be little doubt of the existence of phtisis. (g) If with the same combination of circumstances deep inspiration evokes a few clicks of dry crackling ronchus, the diagnosis of phtisis, so far as I have observed, is absolutely certain. (h) If these clicks on subsequent examination grow more liquid, the transition from the first to the second stage may be positively announced. (i) If there be slight flattening under one clavicle, with deficiency of expansion-movement, harsh respiration, and slight dulness under percussion, without the local or general symptoms of phtisis, the first stage of tubercularization cannot be diagnosticated with any surety, unless there be incipient signs at the other apex also: the conditions in question limited to one side might depend on chronic pneumonia, or on thick induration-matter in the pleura. (k) The existence of limited, though marked, dulness under one clavicle, with bronchial respiration and pectoriloquy, so powerful as to be painful to the ear, the other apex giving natural results, will not justify the diagnosis of phtisis. I have known this combination when the apex of the lung was of model health, and a fibrous mass, the size of a walnut, lay between the two laminae of the pleura. I would even go further, and say that the combination in question is rather hostile than otherwise to the admission of phtisis; as, had tuberculous excavation formed at one side, the other lung would, in infinite probability, have been affected in an earlier stage. (l) Pneumonia, limited to the supra and infra-clavicular region on one side, and not extending backwards, is commonly, but not always, tuberculous. (m) Subcrepitant ronchus, limited to one base posteriorly, is not, as has been said, peculiar to tubercle; it may exist in emphysema and in mitral diseases. (n) Chronic peritonitis, in a per-

son aged more than fifteen years, provided cancer can be excluded, involves as a necessity the existence of tubercles in the lungs. To this law of Louis's, it is necessary to add the qualification, provided Bright's disease be also absent. (o) Pleurisy with effusion, which runs a chronic course in spite of ordinary treatment, is, in the majority of cases, tuberculous or cancerous; the character of the symptoms, previously to the pleurisy, will generally decide between the two. (p) Double pleurisy, with effusion, is not, as has been said, significant of tubercle; for it may depend on Bright's disease. If the latter disease can be excluded, carcinoma and pyaemia remain as other possible causes. (q) If a young adult, free from dysentery, and who has not resided in tropical climates, suffers from obstinate diarrhoea, which goes on month after month, with slight remissions and intermissions, even though there be no cough, he is in most strong probability phthisical. If physical signs, to the slightest amount, exist at either apex, he is, almost to absolute certainty, phthisical. (r) If a young adult, free from secondary syphilis and spermatorrhœa, and not dissolute in his habits, steadily lose weight, without clear cause, he is in all probability phthisical, even though no subjective chest-symptoms exist. (s) But he is not by any means certainly so; for he may have latent cancer in some unimportant organ, or he may have chronic pneumonia. (t) Nay, more, he may steadily lose weight, have dry cough, occasional diarrhoea, and night-sweats, and present dulness under percussion, and bronchial respiration under both clavicles, and yet be non-phthisical. I have known all this occur in cases, both when the lungs were infiltrated superiorly with primary encephaloid cancer, and when they contained secondary nodules of the same kind. (u) Failure of weight becomes less valuable as a sign of phthisis, the longer the thirtieth year has been passed. (v) The discovery of cardiac disease with marked symptoms deposes against, but does not exclude, the existence of active tubercularization. (w) The existence of cancer in any organ is unfavourable to the presence of tuberculous disease; but tubercle and cancer may co-exist even in the same lung."

It is cheering to every humane physician that one so capable and impartial as Dr. Walshe should take a view of the tendencies of consumption, very different from what has been almost universally entertained by writers upon this fell disease. He believes that the treatment of the phthisical may confidently aim, either at producing slight improvement, at totally removing the subjective symptoms, and either ameliorating or rendering quiescent the physical signs, while the general health, weight, and vigour, improve to such an extent that the patient may believe himself cured, and the physician might also think so, did not passive physical changes remain. Our readers are probably familiar with the statistical results of the treatment by cod-liver oil, in the London Consumption Hospital, which our author has already published. We now present the conclusions to which a longer and more extensive use of this agent has led him.

"I began to employ the oil at the Consumption and University College Hospitals seven years ago, urged to the step by the strong advocacy of Dr. Hughes Bennett, and took an early opportunity of testifying to its remarkable powers in tuberculous and other serofulous diseases.* The conclusions at which I have arrived concerning its use in phthisis are as follows: 1. That it more rapidly and effectually induces improvement in the general and local symptoms than any other known agent. 2. That its power of *curing* the disease is undetermined;—I mean here, by 'curing' the disease, its power of causing, along with suspension of progress, such change in the organism generally, as shall render the lungs less prone to subsequent outbreak of tubercles, than after suspension occurring under other agencies.† 3. That the mean amount of

* Nature and treatment of cancer, p. 202, 1846.

† That such cures really occur in rare instances (and they are as perfect as in any other organic disease, when they do occur) is indubitable. It has been the vanity of late years to deny this absolutely, because a scientific (or pseudo scientific?) explanation of the fact cannot be found. I am not one of those who refuse to accept the evidence of my senses, because I am unable to comprehend what they teach me, and in this manner echo the sentiments of the physician in a recent French tale, speaking of a phthisical re-

permanency of the good effects of the oil is undetermined. 4. That it relatively produces more marked effects in the third, than in the previous stages. Opinions the most diverse have been held on this point. M. Taufflied* taught that it had little or no effect on phthisis, if at all advanced; M. Péreyra† reduced the size of cavities in a few weeks by its administration. 5. That it increases weight in favourable cases with singular speed, and out of all proportion with the actual quantity taken;—that hence it must in some unknown way save waste, and render food more readily assimilable. 6. That it sometimes fails to increase weight. 7. That in the great majority of cases where it fails to increase weight, it does little good in other ways. 8. That it does not relieve dyspnoea out of proportion with other symptoms. 9. That the effects traceable to the oil in the most favourable cases are: increase of weight, suspension of colliquative sweats, improved appetite, diminished cough and expectoration, cessation of sickness with cough, and gradual disappearance of active physical signs. 10. That in some cases it cannot be taken either because it disagrees with the stomach, impairing the appetite (without itself obviously nourishing), and causing nausea, or because it produces diarrhoea. 11. That in the former case it may be made palatable by association with a mineral acid; and in the latter prevented from affecting the bowels by combination with astringents. 12. That intra-thoracic inflammations and haemoptysis are contra-indications to its use, but only temporarily so. I have repeatedly given the oil within a day or two of the cessation of haemoptysis without any return taking place. 13. Diarrhoea, if depending on chronic peritonitis, or secretive change, or small ulcerations in the ileum, is no contra-indication to the use of the oil; even the profuse diarrhoea caused by extensive ulceration of the large bowel is not made worse by it. 14. That the good effects of the oil are *ceteris paribus* directly as the youth of those using it,—a singular fact, which probably may one day (when the textural peculiarities of youth and age are better understood) aid in giving a clue to its mode of action.

"Of the three kinds of oil—the brown, light brown, and pale—the brown, I believe, as a matter of actual experience, to be the most efficacious.‡ But though taken greedily by infants, it is more distasteful than the pale to the adult palate, and hence in grown up persons I have been forced to use the latter, less active kind (in fact, *gild the pill*), in order to ensure oil being swallowed at all. Chemists give no positive answer to the question, on what depends the efficacy of the drug? Its influence on the composition of the blood is yet undetermined. A single analysis by Simon shows a state of hypernosis, combined with a great excess of albumen, may follow on its use; the solid constituents were in large amount. The patient had been bled repeatedly for haemoptysis. The iodine of the oil, its phosphorus, butyric acid, gaduine, biliary material, and its mere fatty matter have been severally accorded the chief part in the beneficial results. The discussions on this point do little more than exhibit the existing poverty of our knowledge of the intimate action of remedies. On the other hand, the established efficacy of the oil—a substance of which *à priori* views would scarcely have admitted the possible retention by the phthisical stomach—is another of the conquests of *experimental* therapeutics.§

"The dose of the oil at the outset should never exceed (often fall short of) a drachm twice daily; it may be taken in water, milk, orange wine, or any aromatic water agreeable to the patient. The dose may be gradually raised to half an ounce, twice, or at most thrice, in the twenty-four hours. I have never seen

very: "ces miracles de guérison, aux quels la Science ne croit pas, saute de les comprendre, et devant lesquels je me prosterné, en priant la bonne et sage Nature d'en être moins avare."—Pierre, par Madame Reyland.

* Gaz. Méd. de Paris, Nov., 1839.

† Du Traitement de la Phthisie. Bordeaux, 1843.

‡ On the properties of these varieties of oil, see De Jongh on Cod-liver Oil, by Carey, Lond., 1849.

§ As is well known, cod liver oil has been a household remedy from time immemorial in the north of Europe.

any good, and often observed ill, effects follow the attempt to pour in large quantities."

Diseases of the heart are very thoroughly discussed by our author. We have marked many passages for comment or approval, but our limited space prevents even an enumeration of them. One, however, we cannot refrain from noticing, since it relates to a very common and pernicious error, the habit, namely, of prescribing active treatment in hypertrophy of the heart. The author declares that he has "never known the cure of indubitable hypertrophy, proved by physical signs." The usual sedative palliatives are approved of by him, with an especial commendation of aconite, which he gives in the form of alcoholic extract of the root, in doses of one-eighth of a grain.

On the whole, there is a great deal of valuable information in this treatise, which is not contained in any previous one, upon the same subject, and which, considering its quality, and the source it proceeds from, cannot fail to become a permanent addition to the pathology and treatment of thoracic diseases. We have only to regret the extreme compression of the style of the work, which, by crowding too closely a number of dissimilar ideas, renders it no light matter to read, and, in some cases, even obscures the sense.

A. S.

ART. XIX.—*Lectures on Materia Medica and Therapeutics, delivered in the College of Physicians and Surgeons of the University of the State of New York.* By JOHN B. BECK, M. D., late Professor of Materia Medica and Medical Jurisprudence. Prepared for the Press by his friend, C. R. GILMAN, M. D., Professor of Obstetrics, etc., in the College of Physicians and Surgeons, N. Y. 8vo. pp. 581: New York, Samuel S. and William Wood, 1851.

As a text-book, for the use of students, we know of no treatise better, and very few, indeed, that are as well adapted as the one before us. It presents a sufficiently full digest of the present state of knowledge in reference to the leading articles of the *materia medica*, perhaps, to all the more valuable remedial agents, and an admirable, if not very full, sketch of the effects of these agents in their application to the management of disease; the subjects comprised under these two heads being arranged with much perspicuity, and expounded in a concise, but, at the same time, clear and pleasing style. The lecturer possessed evidently a practical rather than a discursive mind, and was more interested in tracing the known properties and effects of the *materia medica* than in framing novel and specious theories to account for their curative powers; in the language of his friend and editor, he was not a runner after new things; his study was much more into the indications of treatment, the circumstances modifying the operation of medicines, and those kindred topics which may be denominated the philosophy of *materia medica*.

In the classification of remedies, adopted by Dr. Beck, his only objects, he states, were simplicity and convenience—medicines being arranged by him "according to their more prominent and acknowledged effects on the system," into six great classes: Evacuants, Depressants, Narcotics, Excitants, Rebulatives, Alteratives.

The *first class* is divided into nine orders: Emetics, Cathartics, Anthelminetics, Sialagogues, Diaphoretics, Diuretics, Expectorants, Emmenagogues, Parturients.

Of the *second class* there are three orders: Sedatives, Refrigerants, Demulcents.

Narcotics are not divided.

Of *Excitants* there are four orders: Stimulants, Nervines or Antispasmodics, Tonics and Astringents.

Of *Rebulatives* two, Internal and External; and of *Alteratives* two, Vital and Chemical.

In treating, first, of each class of remedies generally, the lecturer describes

the effects produced by them, the circumstances modifying these effects, the conditions of the system favourable and unfavourable to their employment, the different modes of introducing them into the system, the rules to be observed in their administration, and, lastly, their uses and application in various diseases. The consideration of these several subjects being preceded, in the case of emetics, cathartics, and diuretics, with a brief description of the organs by which their primary and chief operation is experienced.

We acknowledge the general accuracy of the author's teachings on all the subjects embraced in the lectures before us. Upon some particular points, it is true, we cannot entirely coincide in the correctness of the views advanced by him. It is probable, however, that, had it been consistent with the plan of the lecturer to have considered, more in detail, the therapeutic application of the remedial agents treated of, even the few particulars in which we differ from him would not have existed.

In preparing the manuscript of Dr. Beck for the press, the editor assures us that his agency "has been merely ministerial;" where it seemed to him "that the language could be made more clear, verbal alterations have been made;" and "where, as happened in a very few instances, a fact was stated inaccurately, the statement was corrected by him." In a few places, he has added a few words, where he thought, by so doing, he could "make the book useful to students; in all cases these additions, '*ne illo imputantur*,' are included in brackets."

Many of what are termed the "new remedies," are unnoticed in the lectures of Dr. Beck; the editor felt no disposition to supply the omission. Two subjects, however, he believed it proper to introduce.

"One was, to be sure," Dr. Gilman remarks, "a new and fashionable, and a most extravagantly vaunted agent, cod-liver oil. Still, it appeared to me that, in a matter with which the mind of the profession is at present so much occupied, something ought to be said. I have, therefore, prepared an article which, I hope, may not be useless. The other subject, to which I referred, is Anæsthetics. These agents have been introduced during the period of Dr. Beck's failing health, and he never lectured on them. He knew that they were noticed incidentally by two of his colleagues, Dr. Parker and myself, and that I devoted considerable time to a rather full consideration of the whole subject; hence he felt the less necessity for treating of them. When, however, his lectures came to be presented to the profession in a book; and, especially when they were offered to students as a text-book of *materia medica* and *therapeutics*, it was obviously proper that a consideration of these agents, whose use is so wide spread, and whose utility is scarce now a subject of doubt, should appear in it. I accordingly prepared an article on anæsthetics, in which, while I have tried to do justice to a class of remedies, the introduction of which into practice is, I firmly believe, a great boon to humanity, and when used in the particular department of the healing art to which I have for years devoted most of my time and thought, enables us to rob labour of half its sorrows, and almost all its terrors, I have, at the same time, and even with more earnest efforts, laboured to impress on the minds of those as yet unfamiliar with their use, the lessons of caution and watchfulness without which, I know, these agents are and must be ministers of death. On the question of how far I have succeeded in this task, I feel very great solicitude; I am, I hope, ever mindful of the responsibility which attaches to one who earnestly commends to the notice and the favour of the profession a practice which has, we know, destroyed more than a score of lives, and which many believe has been fatal to a much larger number. I know that, in urging upon the profession the *duty*, for such, in certain cases, I deem it, of using anæsthetics, I may be instrumental in the destruction of human life; and I desire, by the most earnest warnings, by cautions in season and out of season, to clear myself of any responsibility for fatal events, which may and must result from the careless use of those drugs. Used with constant care, watched with unceasing vigilance, they are safe, and most beneficial agents; used rashly and thoughtlessly, they are so dangerous, so almost certainly fatal to life, that such use of them involves, in my judgment, an amount of moral guilt little short of that which attaches to manslaughter. To impress

these opinions, and the consequent cautions, on the readers of the article on anaesthetics, was the motive constantly present to my mind in its preparation. If I have succeeded; if those who read it gain from it lessons of care, caution, and watchfulness, I shall be satisfied; if not, better, far better, that it had not been written."

This is an honest, and, we believe, correct statement in reference to the dangers attendant upon a careless and improper resort to anaesthetics, and it is these dangers which should cause every one, before resorting to them, in any case, to pause and weigh well all the advantages to be gained from their employment, and satisfy himself that these advantages are of an importance that will outweigh all possible risk incurred by their use. Is the use of anaesthetics necessary under any circumstances? Will their administration, in any instance, increase the safety of the patient's life? If it be admitted that the only benefit to be obtained from their employment is the abolition of pain, then arises the important question, are we so well acquainted with their effects as to be able so to manage them, in every case, that, while we destroy by them susceptibility to pain, we can be certain that, in placing the patient under their use, he shall incur no risk of death or permanent injury of any kind? It may be our duty to inflict pain to *save life*, but can scarcely be warranted in *risking life* merely to avoid pain.

We now quote, for the benefit of our readers, Dr. Gilman's rules for the administration of anaesthetics; they will, we fear, scarce find them sufficiently explicit to lead to the safe employment of agents, admitted to be, when "used rashly and thoughtlessly"—"so dangerous, so almost certainly fatal to life," that such a use of them is declared to involve "an amount of moral guilt little short of that which attaches to manslaughter."

"*Circumstances modifying the effects of Anaesthetics.*—On this subject we want facts. *Age* does not seem to contra-indicate their use, as Professor Gross says he has administered chloroform to patients of every age, from sixteen months to seventy years, without any evil effects. *Sex*, too, seems to have little influence, and if such power belong to *climate*, we are yet unable to appreciate it."

"*States of system unfavourable and favourable to the use of Anaesthetics.*—The conditions under which anaesthetics are most likely to act irregularly are, 1. Very great plethora. From the observations of Dubois and others, it would seem most prudent to remove this plethora before the agent is administered. Yet, having done this, care must be taken as to the manner in which the anaesthetic is given, as it usually acts much more promptly immediately after a bleeding, or when the system is much reduced, than under other circumstances. In the case to which I have already alluded, where its effects were so rapid and so serious, the chloroform was given immediately after a free bleeding. 2. The presence of serious disease of the heart or great vessels has been, by Mr. Wakley and others, said to contra-indicate the use of anaesthetics. This has been denied; certainly the existence of such organic affection should make us pause and duly reflect on the question; and, if we judge it best to use the anaesthetic, no doubt great care should be taken to shorten, or avoid altogether the period of excitement."

"*Rules for the administration of Anaesthetics.*—1. The patient should not take food immediately before the operation. 2. The mind should be as far as possible calm and composed. 3. Quiet around is of the utmost importance; loud talking, addressing questions to the patient, &c., are all likely to interfere with the production of the anaesthetic state. 4. As to how rapidly the patient should be hurried through the state of excitement, there is difference of opinion, and a different rule should prevail, as the agent is ether or chloroform. If ether is used, the stimulation is often troublesome, and the deeper stages of narcotism not readily produced. We ought, therefore, to hurry forward the process; place the cupped sponge over the nose and mouth, not pressing on the skin, but quite near, and urge the patient to take full free inspirations—let them follow each other as rapidly as is consistent with their being *full* and *deep*. As to chloroform, Professor Simpson advises that the patient should be plunged as rapidly as possible into complete anaesthesia. This is not the course I would recommend. I think the practitioner will do better to feel his way a little, and allow

the effects of the agent to develop themselves gradually. There will every now and then be trouble with the stimulating effects, but there will be less danger. 5. Care should be taken that the supply of atmospheric air is at all times adequate. There is little doubt but that several of the fatal cases depended on an inadequate supply of air. 6. Watch the case from the first inhalation till consciousness and sensibility have completely returned. One person should in all operations have charge of the anæsthetic, and he should *think of nothing else*. In one fatal case, the attendant who should have watched the patient, was looking at the operation, *and the man died*. The person who has this charge should keep his finger on the pulse *every single moment* of the time; not one beat should the heart give that his finger does not take note of. The moment the pulse begins to flag or flutter, the inhalation should cease, and a puff or two of fresh air be blown into his face. As to the degree to which the effects should be carried, it will differ in different cases. In natural labour, we need ordinarily go no further than to obtund pain, and this can generally, I think, be done without disturbing consciousness. In surgical operations, complete relaxation of the muscles and profound sleep are generally required. This state, however, must be watched, and when the breathing becomes stertorous the inhalation should be suspended. If the breathing is irregular or interrupted, the danger is most imminent, and every means of keeping up respiration should be resorted to. Artificial respiration is the sheet-anchor in such cases, and I have known great danger removed by prompt and continued artificial respiration. Everything will depend on the coolness and self-possession of the operator. 7. When the patient is allowed to emerge into consciousness, everything that can startle and shock should be avoided, and the brain allowed quietly to recover its equipoise. Ammonia, oxygen, galvanism, &c., &c., have been proposed as remedies in excessive anaesthesia. They amount to nothing. Artificial respiration is the alpha and omega."

Such then are the best rules that can be given to guide us in the use of a dangerous agent. Vague and indefinite, however, as they unquestionably are, nevertheless, in our present ignorance of all the circumstances which may, in any given case, modify the effect of the anæsthetic administered, so as to render that effect a boon to the patient in the prevention of pain, or to convert it into a poison fatal to life, they are the only ones experience has as yet taught us.

D. F. C.

ART. XX.—*Southern Medical Reports; consisting of General and Special Reports on the Medical Topography, Meteorology, and Prevalent Diseases in the following States: Louisiana, Alabama, Mississippi, North Carolina, South Carolina, Georgia, Florida, Arkansas, Tennessee, Texas, California.* To be published annually. Edited by E. D. FENNER, M. D., of New Orleans; Member of the American Medical Association, etc., etc. Volume II., 1850, Svo. pp. 494: New Orleans and New York, 1851.

WE fear that the real value of these reports is not fully appreciated by the medical profession. Assuming the general accuracy of the facts and observations comprised in them, of which the character of their respective authors must be considered a sufficient guarantee, they present a mass of valuable information on points of the greatest interest, connected with the topography, etiology, pathology, and therapeutics of a most important class of diseases; information which can be derived from no other source of equal authority. The personal observations of a physician accustomed to the clinical study of any form of disease, and to the investigation of the character of the particular localities and circumstances under which it most commonly and to the greatest extent prevails, cannot fail to instruct. And when we have a series of these observations, from a number of practitioners, similarly circumstanced, we are furnished with materials from which we may form a judgment in reference to its causes, character, and treatment, of immense importance, whether as a basis to direct us in the measures to

be adopted for its prevention, the mitigation of its severity, and its cure, or to direct us, in our personal study of the form of disease in question, to those points upon which, doubt or obscurity still exists.

The present volume of reports is equal in interest to the first, and in some respects, perhaps, superior. It includes contributions in reference to the diseases of eight different States, including California, which, although north of the boundary originally prescribed, it, nevertheless, as the editor correctly remarks, must be "*isothermally*" considered strictly a Southern State, as will appear by the communications from Dr. Thomas M. Logan, of Sacramento city.

The leading topics of the first volume, namely, endemic fevers, epidemic cholera, and colic, medical topography and meteorology, are presented under somewhat different views in this, whilst several new subjects, such as the peculiarities of the negro race, the diseases of California, sanitary measures, and vital statistics, are introduced and discussed with marked ability.

All the reports of the present series are replete with matter of a deeply interesting and instructive character, but none more so than those on the State of Louisiana.

We quote the following paragraphs from the report of Dr. E. H. Barton, on the meteorology, vital statistics, and hygiene of the latter State. In our researches into the nature of malaria, as a cause of endemic and epidemic disease, attention is unquestionably to be paid to the changes which have occurred, preceding or concurrent with the appearance of these diseases, in the physical condition of the atmosphere, which changes, there is every reason to believe, exert as decided a morbid influence as does the vitiation of the air by foreign impurities, the result of the decomposition of large masses of either animal or vegetable matter, while they invariably augment the baneful influence of the latter. It is even more than probable that to the changes in the physical condition of the atmosphere alone are to be attributed the production of wide-spread epidemics; the vitiation of the air by foreign impurities can only occur within very circumscribed limits, and when the free circulation of the atmosphere within those limits is prevented by local causes.

"That the qualities of the medium in which we live," remarks Dr. Barton, "should produce disease, when there are great vicissitudes; when we are subjected to them under conditions we are not accustomed to; or when the system shall have acquired increased susceptibilities from other influences, is not at all extraordinary. In fact, it seems to be in precise accordance with the common sentiments of mankind. Medical men, before the laws of meteorology were understood, refining upon this universal assent, deeming it to be vulgar, or not sufficiently recondite for the mysteries of scientific faith, thought proper to ascribe to another agency the production of the great mass of human maladies. Of the many wonderful powers of this supposititious agent (miasm), with attributes certainly incompatible with any known agent, I have nothing to do now; I only call attention to some of the *sensible properties* of the atmosphere, to show that these qualities, so common as to be passed by almost unnoticed, are of the greatest importance in the preservation of our health, and that, together with personal indulgences and some hygienic conditions, to be hereafter adverted to, most of the conditions productive of a pathological state are fulfilled."

"Probably no general fact is more universally observed than the connection of great devastating epidemics with remarkable distempers of the air; unusual droughts or deluges, great extremes of heat or cold, continued calms, or winds blowing for a long time from unusual quarters, hurricanes, etc.; nay, whatever has been unusual in the elemental conditions, so has varied the health of man—indeed, of inferior creation too, for they have their epidemics as well as man. Astrology ascribed them to the condition and attraction of the heavenly bodies, and various have been the conjectures and superstitions of man in relation to it. The 'constitution of the atmosphere,' for good or for ill, with whatever term it has been clothed, has exacted the general credence of mankind.

"It is a curious fact, in corroboration of this statement, that these meteorological zones or conditions occur in cycles of tolerable regularity, in periods of about seventeen years. So has been the occurrence of great epidemic visitations. The recent cholera and other disastrous diseases are well-known exemplifications

of it. Such lustra, and of about the same duration, have been palpably recognized in agricultural pursuits—in the return of good or bad crops—of the sugar cane dying and being reproduced every seventeen years; and in the animal creation, in the visitation of locusts, the flight of pigeons, etc. By and by the returns will be more exact, the coincidence more clearly shown, the law established, or it will be abandoned. The spirit of philosophic research is now abroad, and the lovers of truth will assuredly find it.

"Since the birth of meteorology, and it has been a very slow and tardy partition; as it unfolded its treasures, as successive data have been recorded, comparisons been instituted, diseases have been ascribed to one or other of the changes that have been noted. Certain maladies are known to predominate during certain seasons, and these are characterized by variations of heat and cold; and so of the different climates, north and south. The most remarkable characteristic, and what has earliest struck the attention of mankind, has been the duration of certain temperatures. It was, however, soon seen that variations of temperature alone were not sufficient to account for all the different diseases prevailing in certain seasons and climates, for when these were the same, the influence on the health of man was very different. More or less rain was found to have its influence; so was the condition of the winds, and so of atmospheric pressure. These still not satisfying inquiry into the causes of the influences we experienced, the *hygrometric* condition was investigated, and it was soon seen that the greatest value was to be attached to it; that it was the only varying constituent of the atmosphere, for in that light it should be looked upon, though not *technically* so; that it was often independent of rain and temperature, which fact, extraordinary as it appears to the scientific reader, my journal clearly demonstrates; and that it readily accounted for most of the influences ascribed to miasm. In proportion, then, to the observation of atmospheric phenomena, so has been their connection with morbid conditions.

"The *hygrometric* condition is less known and appreciated than any other, and probably more nearly influences our sanitary state and enjoyments. Its frequent and great changes are often mistaken for *thermometric* alterations; many persons, feeling the change they experience, are astonished, on looking, to find the stationary condition of this latter; and these changes are sometimes very great. So far as philosophical experiments have gone, hardly a doubt exists of the fact that the winds that have obtained their appellations—such as the simoom, kamzin, etc.—from the pestilences they have borne upon their wings, have derived their qualities mainly from their hygrometrical states; one is loaded with vapour, saturates the atmosphere, prevents the decarbonizing power of oxygen on the blood, relaxes the system, increases the freedom of the secretions by which the blood is impoverished and kept prepared for the important purposes of life (?); while another, on the contrary, desiccates the blood, dries up the secretions by which it is depurated, and arrests vital action, by rapidly depriving the system of the fluids requisite to sustain the organs in the due performance of their functions. In either excess, then, life is jeopardized, and much more than by mere extremes of temperature. This is clearly proved by the fact of the sickliest countries and seasons having the highest dew-point: that in elevated, or other regions, or at sea, where the highest salubrity is enjoyed, a medium hygrometric state is usually present, except when influenced by a prevalence of particular winds, that convey certain amounts of moisture with them. I think the present state of meteorological investigations will authorize me to announce these as *established facts*."

We have not quoted the above paragraphs because they contain anything calculated to throw much light upon the etiology of endemic or epidemic diseases, but from the importance of the views advocated in them, and the necessity of keeping these constantly in mind, in our investigations of the causes of disease. The influence of atmospheric distempers in disturbing the healthful performance of the vital functions of the animal system has been again and again insisted upon, and enforced by a long series of observations; the general fact may, indeed, be considered as established. The nature of the physical changes in the air by which disease is most liable to be produced is, however, as yet unsettled. We may feel satisfied that the cause of disease in the so-called

malarial districts is to be attributed to the excessive moisture of the atmosphere which there prevails, often in conjunction with a defective ventilation; but we want the positive evidence that such is the fact. We feel gratified, therefore, that the physicians of the South have commenced to direct their attention to this subject; and from the accurate series of meteorological observations collected by them, the careful analysis of these, and the comparison of the reigning forms of disease with the condition of the air in reference to its several physical properties, preceding and accompanying their prevalence, we anticipate more positive results than have heretofore been arrived at.

The several notices contained in the present volume of the dengue or break-bone fever, as it occurred in various sections of the Southern States, are replete with interest, and furnish important materials towards a correct history of its symptomatology, its ordinary duration and course, however much they may be deficient in facts calculated to enlighten us in regard to its true pathology and etiology. This strange affection would appear to be rather painful and troublesome than unmanageable or fatal.

We find, in one or more of the communications embraced in the volume, allusions to, if not a positive recognition of, the identity of the yellow fever of the South with the more aggravated forms of bilious remittent fever. We have long suspected this identity; we could in no other way reconcile the discrepancy between the accounts given by those who have described the form of disease denominated yellow fever by the Southern physicians, and the genuine disease as described by the older American practitioners, and by those who have studied it as it prevails along the shores of the Mediterranean, and in the West Indies.

The editor apologizes in a note at the close of the volume for the non-appearance of a considerable amount of matter he has in hand, ready for publication, but omitted from the want of room. We would respectfully suggest whether, in future, for we have no idea that the work will be permitted to close with the second volume, it would not be better to omit such portions of the proceedings of societies as have not a direct bearing upon the medical topography, meteorology, and endemic and epidemic diseases of the Southern States, and devote the space taken up by these with matter of more general interest, and more germane to the leading object of the present work.

We earnestly recommend these southern reports to the patronage of the medical profession. Although they would appear to be mainly interesting to the physicians of those States to which they have immediate reference, still, they contain much matter from which, in consequence of its applicability to the illustration of important points in the etiology, pathology, and therapeutics of disease generally, the physicians of the Northern States also may derive profitable instruction.

D. F. C.

ART. XXI.—*A System of Operative Surgery, based upon the Practice of Surgeons in the United States, and comprising a Bibliographical Index and Historical Record of many of their Operations during a period of Two Hundred Years.* By HENRY H. SMITH, M. D., Surgeon to the St. Joseph's Hospital, &c. &c. Illustrated by numerous steel plates. Phila.: Lippincott, Grambo & Co., 1852.

WE are informed that, "in consequence of the delay necessarily connected with the engraving of the illustrations, the publishers have deemed it desirable to issue this work in parts. Each part will be complete in itself, and they will succeed each other as rapidly as is consistent with the proper execution of the plates." The portion of the work already published, and which is now before us, comprises Parts I. and II.

Want of space and of time, consequent upon the recentness of its appearance, precludes anything like an extended notice of this volume in the present number of this Journal. And, moreover, in justice to Dr. Smith and to ourselves, we prefer not to enter into a critical examination of his labours until they shall

have been completed, and we shall have the opportunity of investigating the finished work. We shall now, therefore, merely give a synopsis of the plan which the author has pursued, and of the contents of this fragment of his book.

Dr. Smith is already pretty generally known to the profession as the author of a very good treatise on minor surgery, and as the translator of a work of M. Civiale, "On the Medical and Prophylactic Treatment of Stone and Gravel." Many of those, moreover, who have, during the last few years, pursued their medical studies in this city, have had the pleasure of listening to his instructions as Assistant Lecturer on Demonstrative Surgery in the University of Pennsylvania, and as Lecturer on the Principles and Practice of Surgery in the Philadelphia Medical Institute.

In view of the many volumes which have been published, during the last ten years, upon Operative Surgery, the issue of another might seem to be uncalled for, and therefore unwise. But Dr. Smith has endeavoured to give to the work upon which he is engaged a peculiar character, by taking as its basis the history and present condition of this department of medicine in this country. How well he shall have succeeded in his undertaking, and the amount of the benefit which he may thereby confer upon the profession, we do not now propose to inquire. His task is certainly not a very easy one. It will require patient and toilsome research into periodical and standard medical literature, and the exercise of much discrimination in the winnowing and sifting of the mass of publications. We sincerely hope that the result of his labours will prove satisfactory to himself and his readers. Our impression of it, so far as we have examined it, is certainly very favourable.

This volume offers to us in the first place a sketch, very concise, of the history of surgery, which is followed by an "Historical Record of American Surgery." The last-named section is interesting, as it tells us how the medical profession has progressed in our land. And it may be a source of honest pride with us to find that, from the dawning of our nation to its present noonday effulgence, the names of physicians are amongst the brightest and worthiest on the pages of our history, both as civilians and soldiers. Dr. Samuel Fuller was one of the pilgrims in the "May-Flower;" Dr. John Winthrop was one of the earliest governors of the Connecticut Colony; in 1746, Dr. Colden was the Lieutenant-Governor of New York; in 1775, Dr. Joseph Warren, acting as General of the infant army of the Revolution, fell at the glorious engagement of "Bunker Hill;" in the same year, Dr. Benjamin Rush was a member of the American Congress, and signed the Declaration of Independence; in the same year, too, Dr. Mercer, better known as General Mercer, fell at the battle of Princeton. And from the number of worthy men who are now in the ranks of our profession, we have no doubt that, should the country need their service in the field, or in the council, many will be found who will prove themselves not inferior to those early champions of Liberty and Right. But a glance at this historical sketch which Dr. Smith has presented shows that the first physicians of this country did good service to the cause of their science. In 1721, Dr. Cotton Mather introduced the practice of inoculation in Boston,—the same year in which Lady Mary Wortley Montague was inoculated in England. Dr. Bayley, a surgeon of New York, described the false membrane formed in croup, and recommended the treatment of this disease by bleeding, tartar emetic, and calomel—a practice which twenty years subsequently, was advocated by Dr. Cheyne, of Dublin, and has been claimed as having originated with him. Many important surgical operations, too, were first performed in this country, and numerous additions have been made to the *Materia Medica*.

In looking over the bibliographical index which Dr. Smith has prepared, and which occupies many pages, it will be seen that much has been done by American surgeons towards the literature of the practical part of their science.

In many respects, the profession has been unfavourably circumstanced as respects the cultivation of the *science* of medicine in this country; and to those who are acquainted with the nature of the disadvantages under which medical men have here laboured, it can scarcely be a matter of surprise that no more has been accomplished by them. But these impediments are gradually disappearing, and our honour and reputation are certainly involved for the future.

for the cultivation of original scientific investigations. In other sciences, and in the useful arts, our progress is very satisfactory; in medicine, we cannot and should not conceal or deny that we are behind our European brethren.

Dr. Smith has divided this portion of his work into two parts: The *first* embraces the general duties and elementary operations of a surgeon. He inculcates the importance of a certain preparation of the patient for operations, the necessity of exercising care in the planning of all operative procedures, and in the preliminary arrangements, and the duties of the surgeon and assistants during, and subsequent to, the operation. A section is devoted to the instruments required for the elementary operations, and to the selection, preservation, and modes of employing them. Another section treats of the important subjects of the arrest of hemorrhage, and the treatment of wounds made in operations.

The *second part* describes the operations practised upon the head and face. Before giving an account of these, the author details the anatomical peculiarities of each region. His authorities are chiefly Blandin and Professor Horner. The operative procedures which are described are selected from American and foreign sources, and the author's own opinion concerning their comparative merits is also announced. A very important feature in this connection is the introduction of a concise statement of the *pathology* of the affections for which operations are performed, inasmuch as a thorough acquaintance with this department of surgery can alone constitute the true basis of treatment.

The author's descriptions of the different operations are generally clear and satisfactory. His style of writing, however, is often open to criticism, and we would call his attention to this point, because, although he himself doubtless knows precisely what he wishes his readers to understand by his remarks, he nevertheless exposes himself in many instances to the charge of being obscure, or something even worse than this. We will cite a few illustrations. On page 22, he says: "In some few instances the production of pain, and the development of the patient's sensibility, are the object of the operation, as is seen in the use of stimulants for the cure of hydrocele." He does not mean, certainly, that the object of the surgeon in this case is to produce pain, but to excite a certain modification of vitality in the serous membrane of the scrotum, of which pain is one of the usual indications. Again, on page 29, in discoursing upon the duties of the surgeon after an operation, with reference to the proper regimen to be pursued, he observes: "An operator will not err in this part of his duty if he bears in mind the great principles of all sound practice, viz., Inflammation." The true interpretation of this sentence is not quite so palpable as that of the other. In his preliminary history of Surgery, he informs us that "the earliest individual directly spoken of in connection with the practice of surgery, and the reputed originator of the science, is the *mythological person of Chirou*, the centaur, supposed to have been born in Thessaly at some unknown period." Such blemishes as these the author can easily avoid, and we allude to them, in a perfectly friendly manner, in order that he may in future pay a little more attention to his mode of expressing his excellent precepts.

The publishers have fulfilled their part in this undertaking in a very satisfactory manner. The paper and the type of the book are much superior to most of our medical publications. The drawings, which are very numerous and well chosen, are chiefly copied from the beautifully-executed plates of Messrs. Bernard and Huette; many are faithfully drawn from nature. They are a great ornament to the book, and cannot fail to be serviceable to the operator.

F. W. S.

ART. XXII.—*Report on the Construction of Hospitals for the Insane, made by the Standing Committee of the Association of Medical Superintendents of American Institutions for the Insane, at its Meeting in Philadelphia, May 21st, 1851.*

THE Association of Medical Superintendents of American Institutions for the Insane was organized in 1844, and holds its annual meetings in different sec-

tions of the United States. On its list of members are found the names of most of those who of late years have devoted themselves to the care of the insane, or are now engaged in the Superintendence of Public Institutions for their treatment.

The want of some definite principles to guide those, to whom has been entrusted the erection of new Hospitals, has been so universally felt, that we believe we shall be doing a favour to the public by promulgating the results of the experience of practical men on the subject, especially so, at the present time, when so many States of the Union are engaged in providing new institutions, or in enlarging those already in existence. In the report referred to above, will be found a series of propositions on the subject, which, after mature deliberation, received the unanimous approval of the Association, and were directed to be published as the well-settled opinions of its members. These propositions, twenty-six in number, are as follows, viz:—

1. Every Hospital for the Insane should be in the country, not within less than two miles of a large town, and easily accessible at all seasons.
2. No Hospital for the Insane, however limited its capacity, should have less than fifty acres of land, devoted to gardens and pleasure-grounds for its patients. At least one hundred acres should be possessed by every State Hospital, or other Institution for two hundred patients, to which number these propositions apply, unless otherwise mentioned.
3. Means should be provided to raise ten thousand gallons of water, daily, to reservoirs that will supply the highest parts of the building.
4. No Hospital for the Insane should be built, without the plan having been first submitted to some Physician or Physicians, who have had charge of similar establishments, or are practically acquainted with all the details of their arrangements, and received his or their full approbation.
5. The highest number that can with propriety be treated in one building is two hundred and fifty, while two hundred is a preferable maximum.
6. All such buildings should be constructed of stone or brick, have slate or metallic roofs, and as far as possible be made secure from accidents by fire.
7. Every Hospital, having provision for two hundred or more patients, should have in it at least eight distinct wards for each sex,—making sixteen classes in the entire establishment.
8. Each ward should have in it a parlour, a corridor, single lodging-rooms for patients, an associated dormitory communicating with a chamber for two attendants; a clothes room, a bath room, a water closet, a dining room, a dumb waiter, and a speaking tube leading to the kitchen or other central part of the building.
9. No apartments should ever be provided for the confinement of patients, or as their lodging-rooms, that are not entirely above ground.
10. No class of rooms should ever be constructed, without some kind of window in each, communicating directly with the external atmosphere.
11. No chamber for the use of a single patient should ever be less than eight by ten feet, nor should the ceiling of any story occupied by patients be less than twelve feet in height.
12. The floors of patients' apartments should always be of wood.
13. The stairways should always be of iron, stone, or other indestructible material, ample in size and number, and easy of ascent, to afford convenient egress in case of accident from fire.
14. A large Hospital should consist of a main central building with wings.
15. The main central building should contain the offices, receiving rooms for company, and apartments, entirely private, for the Superintending Physician and his family, in case that officer resides in the Hospital building.
16. The wings should be so arranged, that if rooms are placed on both sides of a corridor, the corridors should be furnished at both ends with movable glazed sashes for the free admission of both light and air.
17. The lighting should be by gas, on account of its convenience, cleanliness, safety, and economy.
18. The apartments for washing, clothing, &c., should be detached from the Hospital building.

19. The drainage should be under ground, and all the inlets to the sewers should be properly secured to prevent offensive emanations.

20. All Hospitals should be warmed by passing an abundance of pure fresh air from the external atmosphere, over pipes or plates, containing steam under low pressure, or hot water, the temperature of which at the boiler does not exceed 212 degrees F. and placed in the basement or cellar of the building to be heated.

21. A complete system of forced ventilation, in connection with the heating, is indispensable to give purity to the air of a Hospital for the Insane, and no expense that is required to effect this object thoroughly, can be deemed either misplaced or injudicious.

22. The boilers for generating steam for warming the building should be in a detached structure, connected with which may be the engine for pumping water, driving the washing apparatus, and other machinery.

23. All water closets should as far as possible be made of indestructible materials—be simple in their arrangement, and have a strong downward ventilation connected with them.

24. The floors of bath rooms, water closets, and basement stories, should as far as possible be made of materials that will not absorb moisture.

25. The wards for the most excited class should be constructed with rooms on but one side of a corridor, not less than ten feet wide, the external windows of which should be large, and have pleasant views from them.

26. Wherever practicable, the pleasure-grounds of a Hospital for the Insane should be surrounded by a substantial wall, so placed as not to be unpleasantly visible from the building.

The importance of these propositions to the comfort and welfare of the insane, and to an economical administration of such establishments, can be fully appreciated only by those who have been actually engaged in the direction of Hospitals, and are thoroughly familiar with the many and glaring defects of construction to be found in most of the existing institutions.

It will readily be perceived, that various other points, in regard to which there is nearly unanimity of sentiment, might have been introduced, but it was deemed desirable that nothing should be promulgated on this subject that did not meet with entire approval from the whole Association. The twenty-six propositions which we have copied from the published proceedings are all of this character; there is no one of them that is not important; and they go sufficiently into details to justify us in saying that they will form a safe guide for any body of men entrusted by the community with the important duty of providing new institutions for the insane. If faithfully carried out in any Hospital, we hazard little in saying that it will be found quite equal in every respect, if not much more convenient and comfortable, and better adapted for all the purposes required in such an institution, than any one now in existence, while its cost will not be greater than is generally required for the very imperfect plans too often adopted.

The medical profession, in every State, ought at least to possess sufficient influence to prevent Boards of Building Commissioners from perpetuating bad plans, or assenting to the crude designs, of perhaps eminent architects, who, whatever may be their abilities, really know little of the requirements of a Hospital for the Insane, when it is so easy to ascertain the essential features about which there is shown to be no difference of opinion among them who have a practical acquaintance with the subject. We know not how medical men can do a greater favour to the afflicted, or to the community, for their interests are identical, than by insisting hereafter, whenever a new Hospital is to be built, that it shall at least come up to the requirements of these twenty-six propositions; and that anything less shall be regarded as proof that those in authority have been derelict in duty, and have been unfaithful in the performance of an important public trust.

T. S. K.

ART. XXIII.—*The Journal of Psychological Medicine and Mental Pathology.*
Edited by FORBES WINSLOW, M. D., London (published quarterly). Nos. 1—16.
January, 1848, to October, 1851.

THE obvious want of facilities for studying mental diseases, which is everywhere noticed, ought naturally to give the profession a particular interest in the class of periodicals specially devoted to their investigation. So long as this very important and not uncommon class of maladies is scarcely noticed in the course of instruction given, even in the best medical schools, and while the large charities for the pauper insane are closed against every attempt to give clinical instruction within their wards, the Journals which are devoted to this branch of medical science, and are strictly professional in their character, seem to be almost the only medium by which medical men can keep accurately informed of the progress made in this department of the profession, or be made familiar with the zeal with which industrious and accurate observers are prosecuting the study of every point of interest connected with it.

There are now three Journals devoted to insanity and kindred subjects, which are familiar to all who are engaged in the care of the insane, but are much less known to the profession generally than is commonly supposed.

The *American Journal of Insanity*, with which our readers are most familiar, was commenced by the late lamented Dr. Brigham, at Utica, N. Y., and conducted by him up to the period of his death. It is now under the editorial management of Dr. T. Romeyn Beck, and has been the medium of communication for a large amount of valuable information and important essays on most subjects connected with the welfare of the insane. It has completed its seventh volume. The *Annales Médico-Psychologiques*, edited by Baillarger, Brierre de Boismont, and Cerise, is published quarterly in Paris, and from its commencement it has been ably conducted. The *Journal of Psychological Medicine and Mental Pathology*, to which we propose calling the attention of our readers more particularly, originated with Dr. Forbes Winslow in 1848, and continues to be edited by him with decided ability. In the estimation of all right thinking men, it should have an increased value from the fact that it is particularly addressed to the members of the medical profession; and that all that class of articles intended for the public as a means of notoriety are carefully excluded from its pages.

The plan of Dr. Winslow's Journal embraces original communications, analytical and critical reviews, giving well-digested abstracts of all works on psychological subjects, translations from continental journals, a full discussion of the subject of medical jurisprudence, carefully prepared notices of the operations of the different hospitals for the insane, and a great variety of other useful and interesting selections.

As a medium for communicating the results of the experience of those devoted to this branch of the profession, the *Psychological Journal* has been highly valuable, and its pages have furnished a large amount of practical information not to be found elsewhere.

Besides the usual variety, the numbers already published contain several elaborate articles devoted to an analysis of the reports of American institutions for the insane, with details of their arrangements and modes of management. The marked impartiality and liberality of feeling with which these institutions have been noticed in this Journal, have brought them very prominently before the European public, and have illustrated most strikingly the great progress which has recently been made in this country in the management of the insane, and the improved character of the hospitals prepared for their treatment.

Want of space prevents our doing more on the present occasion than simply referring very briefly to the contents of the last number of this excellent periodical, but which will be sufficient to show the importance and value of the subjects under discussion to the whole body of the profession.

The first article of forty-one pages, on sleep, dreaming, and insanity, is an elaborate notice of the writings of Drs. Symonds, Fosgate, Wood, and Bennett,

on these and kindred subjects, and is distinguished by deep research and a philosophical view of the whole subject. The second article is a review and criticism of the recent work of Mr. Bailey on the theory of reasoning. Next follows a notice of the Lunatic Asylums of Ireland, including special reference to that very important subject, the establishment of a central asylum for the reception and custody of insane persons, charged with the commission of criminal offences. To this succeeds a review of the reports of the principal British asylums, embracing a large amount of valuable information, apparently drawn up with great care, and an earnest desire to give reliable statistical tables. Article 5th is devoted to the subject of medical evidence in cases of insanity; and the 6th, styled the murderer's confession, presents one of the most extraordinary instances on record of a propensity to take life, or at least a recklessness in the commission of murder, difficult to be accounted for; the case in point is cited by the reporter of it to establish the importance of preventing, by every possible means within the reach of the law, the guilty from escaping punishment.

Among the original communications which follow, is one on improving the condition of the insane by the establishment of additional asylums for the middle classes, by Henry Munro, M. D., and a translation of a paper by M. Briere de Boismont on the last sentiments of suicides. The proceedings of the last meeting of the association of medical officers of British hospitals for the insane are given in full, followed by articles on criminal and on chancery lunatics, and various short notices.

We regard the establishment and successful prosecution of this periodical as having done much to promote the best interests of the insane, and the able manner in which it has been conducted from its commencement as highly honorable to its distinguished editor. We cordially recommend it to the patronage and support, not only of all specially interested in the custody and treatment of the insane, but to the members of the profession generally, as giving reliable information in regard to mental science, and as inculcating sound doctrines on all matters connected with the treatment of insanity. T. S. K.

ART. XXIV.—*Eighth Report to the Legislature of Massachusetts, relating to the Registry and Returns of Births, Marriages, and Deaths, in the Commonwealth of Massachusetts, from May 1st, 1848, to January the 1st, 1850.* 8vo. pp. 130.

This interesting and important document, though furnished officially by the Secretary of State, the Honorable Amasa Walker, is understood to have been drawn up for him by Dr. Josiah Curtis, of Boston, who had bestowed considerable labour in its preparation. We have heretofore noticed the annual reports of the same kind, and are gratified to find in the present, evidences of great improvement, not only in the increased amount of original matter presented, but in various other respects. We shall proceed to lay before our readers some of the interesting observations presented in the analysis which follows the tabular statements.

The report under notice at present includes the 20 months between May 1st, 1848, and December 31st, 1849, embracing an analysis of 38,313 births, 10,951 marriages, and 30,595 deaths. During the time specified, the State has been visited by the Asiatic cholera, and also by other severe epidemics, the fatal ravages of which contributed to swell the bills of mortality beyond those of any other period since the establishment of the system of State Registration. Former reports show that the average annual number of deaths registered in the State during the previous five years was 9,438, while during the eight months of 1848 embraced in the present report the number was 9,735, and for the twelve months of 1849, the aggregate mortality reported was swelled to 20,860! In this comparison with former years, it is necessary to bear in mind the somewhat curious fact, that the city of Boston was, in 1849, for the first time included among the places which made returns to the Registration Office, similar to those

presented by other cities and districts in the State. It is also proper to observe that the increased improvement manifested in making out reports would tend to swell the returns, even where no unusual epidemics or other causes co-operated to produce such increase. This last-mentioned result is encouraging to those in other States, where exertions are making to establish systems of registration. Perfection must not be expected in the outset, and the first aim should be to make a beginning. The experience of a few years in Massachusetts has shown a gradual advance towards perfection, which gives the best hopes for the future, there as elsewhere.

Among other matters embraced in the report under notice, the sudden and very great increase of the foreign population throughout the State, but more especially in the metropolis, is not the least interesting. The city of Boston contains the larger proportion of foreigners, amounting to no less than 46.37 per cent., or nearly one-half the total population. The foreign population increased 70.2 per cent. from 1845 to 1850, whilst the native American portion actually suffered a decrease of 2.27 per cent.

Of 63,466 foreigners ascertained to be living in Boston in 1850, 52,923 hailed from Ireland, 2,666 from Germany, and 7,877 were from various other countries. "In ward number eight," says the report, "we find the largest number of Irish (7,964), the smallest number of Germans (36), and the smallest number of the coloured population (only two). This section of the city contains the least number of inhabited houses, and at the same time the greatest number of persons to a house, there being an average of 21.18 individuals to each house! Two houses in the ward contain 19 families each; 5 houses were occupied by 10 families each; 14 houses by 9 families each; 32 by 8 families, and 56 by 7 families each!" In the whole city, there are, between the ages of 5 and 15, 12,143 children of natives, and 12,132 children of foreign parentage. In 1830, the proportion of the foreign population throughout the State was estimated at only 1.58 per cent.; in 1840, at 4.72 per cent.; whilst in 1850, it is calculated to constitute 20.20 per cent. In the city of Boston, as has been already stated, the proportion of foreigners is nearly one-half, being 66,072, whilst the native Americans amount to 73,418. Of the total population, namely, 136,884, there were 66,072 males, and 72,716 females.

Among the new items of information contained in this report, we find the sexes of the deceased designated, whilst for every city and district embraced in the returns for 1849, the average age at death has been carefully computed from the records.

Under the head of Deaths from Zymotic Diseases, we find the following remarks, relative to *epidemic cholera*, which exhibited its usual preference for particular classes of citizens, or such as were subjected to particular habits of life.

Of the total number reported as having died, in Massachusetts, of cholera, in 1849, namely, 1,188, the proportion from cities was 944.

Of the 707 cases reported as having occurred in Boston, 572 were among foreigners, 460 of which were Irish, whilst the proportion of native Americans was but 135.

Diarrhea, so usually associated with epidemic cholera, was quite fatal in 1849, the deaths reported under the head throughout the State amounting to 209, of which 109 were in the cities.

Dysentery prevailed as an epidemic preceding the cholera, and produced a heavy ratio of mortality during the last three years. "In its late visitations," says the reporter, "it differs as much, or more, from the ordinary type of that disease, as cholera differs from cholera morbus, or as typhus does from the plague of former times in older countries. The years 1848 and 1849 were particularly noted by the terrible mortality from this destroyer. For six years previous to 1847, the annual average of deaths from dysentery was only 236; but in 1847 it rose to 1,074, and during the succeeding 20 months which are embraced in this report, it numbered 4,590, of which 2,455 were in 1849. By far the most fatal year was 1848, immediately preceding the visit of the cholera. In the latter eight months of that year, 2,135, or nearly a fourth part (23.53 per cent.) of all deaths in the State, occurred from it, besides those in

the city of Boston. In 1847 and 1848, this epidemic was principally confined to cities in the eastern part of the State; but in 1849 it appears to have chosen more rural localities, 67.53 per cent. being in the country districts, and only 32.47 per cent. in cities."

It is noticed that *small-pox* seems to be on the increase, the amount of deaths reported from it in the year 1849 being 114, whilst, during the whole seven years previous to 1848, the total number of deaths was only 106.

Of the 102,596 deaths with causes specified recorded in Massachusetts, including the city of Boston, within the last nine years (excepting deaths from violence), 22,342 are reported as from *consumption of the lungs*, making the proportion about 22 per cent., or a little over one in five of all the deaths from other causes. When to this amount, 4.88 per cent. of the deaths from all known diseases are set down as the proportion from inflammation of the lungs, the deaths from these two afflictions of the respiratory organs constitute 26.66 per cent. of those from all sources.

In the deaths by consumption of the lungs, a very great difference in the proportions of the sexes is observed. Thus, in the last five years and eight months, there were recorded 14,200 deaths from this disease, whose sexes were stated. Of these, 8,453 or 59.49 per cent. were females, and only 5,756 or only 40.51 per cent. males. The excess of the former amounts therefore to 18.98 per cent.

Diseases of the heart have apparently increased, causing 379 deaths in 1849. May not this perceptible increase arise from the fact that the diagnosis of diseases of the chest can be made out now with more accuracy than formerly, when a large proportion of the deaths from diseases of the heart were confounded with pulmonary affections, and left without particular designation?

Of the deaths from *childbirth*, in 1849, much the largest proportion, 133, were in cities, whilst only 79 were from the rural parts of the State. Whether all the deaths from this source in the country are reported may be questionable; but should this be the case, the causes of the disparity may afford an interesting subject of inquiry.

The influence exerted by the seasons upon the bills of mortality are exhibited in a table, which shows plainly that the summer months are by far the most fatal throughout the whole State. In the rural portions of the State, August and September present an aggregate of 30.70 per cent., which is more than double the amount of any other two contiguous months, and nearly double the amount of any two selected months. The two months just named show a difference from each other of only the half of one per cent. in the State; but in the division of the city and country it is much greater, and stands against August in the former, and against September in the latter. In the city of Boston, the per centage amounts to 19.94 in August, and only 10.88 in September. Previous to 1840, September was the most fatal month in Boston, whilst, prior to 1820, the most deaths occurred in October. This change has taken place gradually, as the city has become more densely populated, and more insalubrious, particularly to the younger portion of the population. In the country districts, the abstracts show that September is at this period the most fatal of either of the twelve months. Of all who died in Boston during the months of August and September, 1849, omitting the deaths from cholera, which mostly prevailed among adults, 56.24 per cent. were under the 5th year of age.

We find, in the last table in the series, that different proportions of deaths occur at different ages in cities and rural districts. Thus, whilst 49.81 per cent. of the city deaths were under the 10th year, only 41.11 per cent. of the deaths in the country were under the same age. Taking the whole mortality throughout the State, the proportion occurring under the 10th year was 45.11 per cent.

In the nine eastern counties, the ratio was 2.131 per cent., or 1 death in 46 inhabitants; while in the five western counties, it was only 1.87 per cent. or 1 in 53.47. In Suffolk County (in which Boston is situated) the ratio of mortality was the highest, being 3.645 per cent., or 1 in 27.44 of the living; and generally it was in proportion to the density of the population, if we except some of the secondary cities, which had been taught by previous epidemics to use

preventive measures. When a division is made so as to include the principal cities, the annual ratio of mortality averaged 28.33 per cent., or one death to 35.30 inhabitants; whilst for the rest of the State, including the villages and rural districts, after making an allowance for towns making no returns, the rate of mortality was only 1.704 per cent., or one death per annum in 58.69 inhabitants.

Of the city deaths, nearly one-third (31.79 per cent.) were under the 10th year of age. In the whole State more than a quarter (28.73 per cent.) of the mortality was under the 2d year of age, and one-half (49.81 per cent.) under the 10th year.

Such facts prove clearly the existence of influences in some localities much more unfavourable to health and life than are to be found in others, and this is one of the greatest advantages to be derived from systems of registration, without which extensive evils may exist almost unknown, and consequently remain uncorrected. The progress making in England in sanitary reform may be estimated from the following language used lately by one of its most strenuous advocates, the Earl of Carlisle, better known in this country as Lord Morpeth. "The British Parliament has legislated on the conclusion, submitted with an accumulation of demonstrable evidence, that the causes of epidemic, endemic, and contagious diseases are removable, and that the neglect on the part of the constituted authorities to remove such causes, as far as they are obviously within their control, is a punishable offence. The foundation which the legislature has thus laid for the physical and consequently for the moral improvement of the people, is recognized. Half a century ago, it was said by a great physician and philanthropist (Rush), that the time would come when the legislature would punish communities for neglecting the known means of preserving the public health, and that prediction the British Parliament has been the first to realize."

G. E.

ART. XXV.—*On Gout; its History, its Causes, and its Cure.* By WILLIAM GAIRDNER, M.D. Second edition, 8vo. pp. 300. London, 1851.

In a notice of the first edition of Dr. Gairdner's treatise, given in a former number of this Journal (October, 1849), a very favourable opinion was expressed of the pathological and therapeutical views advanced by the author. The judgment then given was the result of a very careful examination of the work, and its correctness is confirmed upon an equally close examination of those views as more fully set forth and exemplified in the new edition now before us.

In the explanation of the causation and nature of Gout, presented by Dr. Gairdner, there is a clearness and precision which we look for in vain in nearly all the preceding writers on the disease; while, at the same time, it is strictly consistent with what we know of the physiology and organic chemistry of the tissues and fluids which enter into the composition of the human organism, and furnishes a faithful exponent and guide in determining upon the proper preventive and curative measures to be pursued.

Besides a careful revision of the work throughout, and the enlargement and farther exemplification of all its practical parts, two entirely new chapters have been added to the present edition, replete with interesting suggestions in reference to the functions of respiration and sanguification. The views of the author as to the formation of fibrin and gelatin, and the physiological office of the red globules, have so probable a foundation in truth as to demand a more full and close investigation.

We had intended to present to our readers an analysis of the author's views on respiration and sanguification, but found, upon a second perusal of them, that to do him justice and to give a clear view of the facts and reasoning upon which his peculiar views are based would render it necessary for us to quote the greater portion of a chapter occupying forty pages. We must confine ourselves, therefore, to the recapitulation with which the chapter closes.

"It has been proved, I think, beyond the possibility of cavil or doubt, that, in the act of respiration, and by a process of oxygenation, the amorphous albumen is converted into the plastic fibrin, adapted to the uses of the system, and the formation of the softer muscular tissues. The fibrin is again, I imagine, by the removal of a portion of its carbon, by a further process of oxygenation, and by the addition of some atoms of nitrogen, raised to the condition of gelatin, which is instantly carried to the organs for whose nutrition it is destined. The fibrin supplies the softer and more perishable muscular substance. The highly organized gelatin nourishes the organs and containing vessels where elasticity and ductility must be united to great resistance and strength. By a still greater development of the same process, the more elastic chondrin is educed to constitute the cartilages of the body. These functions of decarbonization and oxygenation best account, in my mind, for the appearance of carbonic acid, and disappearance of oxygen in respiration, the points I proposed to illustrate at the beginning of this chapter."

From this mere enunciation of the views of Dr. Gairdner, on the physiological questions embraced in the foregoing extract, it would be unfair to condemn those views as unfounded without a careful examination being made of the facts and arguments adduced by the author in support of them.

As his explanation of the formation of gelatin will be considered, perhaps, the most heterodox, we shall lay before our readers the exposition he has given of his views in reference to this interesting subject.

"Any difficulty," he remarks, "we have met with in accounting for the origin of fibrin is exceedingly enhanced when we seek to trace gelatin to its source. This substance is indeed the most perplexing of all animal products. It is not to be found in the blood; and suddenly, without any apparent stage of transition, it makes its appearance in certain tissues, the skin, cellular membrane, tendons, cartilaginous structures, and bones. It is very extensively diffused through the body; seems, indeed, to form a large part of its skeleton and framework, and yet is not found in its nutrient fluids."

"The systematic chemists have solved this difficulty in a very easy and expeditious manner, by denying the existence of gelatin altogether as a part of the animal body, and assuring us that we form it in the act of ebullition. They do not, indeed, explain to us the process of extraction; they do not tell us what molecular changes are accomplished, what elements are set loose or enter into new combinations, in order to furnish us with this educt of gelatin, which now, for the first time, exhibits itself. This axiomatic opinion was first, if I mistake not, emitted by Berzelius, and is now laid down in works on chemistry with a gravity and comfort that are very surprising. It would, indeed, be presumptuous in me to oppose myself, on a question purely chemical, to great authorities in this branch of science, had the decision been acquiesced in by physicians; but they continue to think about and talk of gelatin as a substance having a real place in, and forming a distinct and essential part of animal bodies, hardly conscious, or not choosing to recollect, that chemists have decided anything in the matter."

"It would indeed very materially abridge my labour, and aid me in my inquiry, could I admit this position of the chemists. Were there no necessity of accounting for the presence of gelatin in the tissues, I should find no contradiction, seeming or real, of the doctrine I have adopted, that all the great organized principles which serve the purpose of building up the animal frame, take their origin in the blood, and that they are there from absolute necessity. The question now becomes an important one, and not less curious than important. Is gelatin an exception to all other organized substances? Does it not arise in the process of sanguification?

"Before giving an answer to this question, it is worth while to review some of the properties, chemical and physical, of this substance, and its relation to other organic principles of animal bodies. The first circumstance which presents itself worthy of observation, is the remarkable behaviour of gelatin under the influence of heat as contradistinguished from that of albumen. This latter substance undergoes a total change, when exposed to heat of a very moderate degree. What the nature of that change is, is not yet known, except by its result, insolubility. But all the changes which gelatin undergoes are in strik-

ing contrast. It only becomes soluble at an elevated temperature, and then, too, requires a large proportion of fluid for its perfect solution, while soluble albumen seems diffusible through the smallest quantity of water. In contrast with albumen, too, which once coagulated cannot be led back to the fluid condition, some solutions of gelatin seem to have a difficulty in returning to a state of cohesion. If a portion of gelatinous tissue be treated with acetic acid, and a jelly obtained, it will readily liquefy on exposure to a very moderate degree of heat, but it does not return to its gelatinous condition on cooling; yet it seems to exist united to the acetic acid, so far unaltered, that on the addition of an alkali, it reappears with properties unchanged. This phenomenon never exhibits itself in aqueous solutions of gelatin, and indeed the more durable quality of this substance may be looked upon as one of its marked characteristics, of which, probably, the retention of its properties in the experiment related may be considered a striking illustration.

"In remarkable coincidence with the more fixed quality of gelatin, is the fact that it enters into the construction of the most durable textures of the body, the cartilaginous, tendinous, and chondrinous structures, which are least liable to change or decay. In this, too, we can see the explanation of one of the great difficulties of the systematic chemists, that this substance cannot be obtained from the gelatinous tissues without decoction. Such firm textures cannot, indeed, be broken down without a considerable disturbing force, and that this is the true reason, is proved by the fact, that gelatinous tissue, when in a state of subdivision, is by no means so rebellious to the action of hot water.

"But gelatin in the tissues is undoubtedly in a state of very great condensation. If twenty-five grains of the aponeurotic expansion of a sheep's foot be exposed to the action of acetic acid, it becomes transparent, swells to many hundred times its original bulk, and yields a jelly which does not arrive at a fluid state till it has penetrated, or been penetrated by, an almost incredible amount of fluid. It is really difficult to say whether the gelatin absorbs the liquid or is absorbed by it, so strange is the manner of its solution. But this remarkable property of swelling and absorbing liquid, and the great amount of fluid required to overcome its cohesion, and give it perfect mobility of parts, afford, in my mind, the explanation of many of its phenomena, and remove the veil of mystery which shrouds its condition in the living body.

"Let me now call my reader's attention to the elemental constitution of gelatin; and with a view to its more perfect understanding, I will place it in conjunction with albumen, fibrin, and chondrin. I wish that the following analyses had been made, I will not say with greater care, for I doubt not they were made with that exactitude which characterizes the eminent individuals to whom we owe them; but I wish they had been made with a knowledge, on the part of their authors, of the important deductions likely to be made from them. They are, however, at least, free from any suspicion of a bias to suit a preconceived purpose.

	Carbon.	Hydrogen.	Nitrogen.	Oxygen.	Sulphur.	Phosphorus.
Albumen, by Mulder	54.086	7.100	15.630	22.157	0.677	0.330
" " Scheerer	55.097	6.880	15.681		22.342	
Fibrine, " Mulder	53.810	6.910	15.539	23.052	0.350	0.330
" " Scheerer	51.454	7.039	15.762		22.715	
Gelatin, " Mulder	50.050	6.480	15.330	25.120	...	
" " Scheerer	50.557	6.903	18.790		23.750	
Chondrin, " Mulder	49.960	6.630	14.440	28.690	0.380	No Ph.
" " Scheerer	49.496	7.133	14.908	28.463	...	

"Whatever doubt may reasonably be entertained of the perfect accuracy of such minute operations, and their authors assume limits within which errors of observation are not only possible, but probable, still the same process of analysis

being followed, they are relatively correct, and form a very sure basis of general deduction. An inspection of the table seems to me replete with interest, and pregnant with useful suggestions. The coextaneous disappearance or diminution of all the combustible matter, except hydrogen, with the increase of oxygen, is very striking. The proportion of carbon gradually diminishes as we rise through albumen and fibrin to the higher organization of gelatin and chondrin. Phosphorus altogether disappears in gelatin, and there are but traces of sulphur either in this substance or chondrin. Whilst these changes are going on, a great addition of azote takes place as fibrin passes into gelatin, which is again dropped as the last substance is raised into chondrin.

"To my mind all these changes are most striking. How is it, and for what reason is it, that amid a general consumption of these combustible elements hydrogen alone is spared and maintained in its primitive amount?" "I cannot help connecting the remarkable characteristics of the tissues we have been considering, with the known qualities of the elements which enter into their composition. All these ligamentous or gelatinous tissues have, and absolutely require for the uses they serve, a great degree of elasticity, durability, and ductility. Their combustible and perishable elements are removed, while they receive a great addition of the least destructive of all the productions of nature. The cartilaginous or chondrinous tissues, on the contrary, require no ductility and tenacity, but even augmented elasticity, the heavier ingredient nitrogen, is withdrawn, and the expansive hydrogen is maintained. These are not phantoms of the imagination. They appear to me indications of an important truth, and to point in the direction of a sound philosophy."

"I have not a doubt, that the atmosphere is the real source of the azote required for the constitution of gelatin, and that this is another proof of the controlling force of those vital functions, which accomplish with ease changes impossible by the unaided agency of any known scientific power. Edwards has proved the disappearance of nitrogen in respiration; Magnus has clearly shown its presence in the blood. Chemical analysis yields it in the organic principles of this fluid; it seems to me that demonstration could hardly be closer or more complete.

"We are now prepared to understand the origin of gelatin, without supposing it to contradict the general law, that the great organized principles which serve for the construction and nourishment of the frame are eliminated in the blood. If gelatin be raised from the fibrin, as I think will appear at least probable, this change must take place in the course of the circulation. But, when the requisite addition of oxygen and nitrogen has been made to fibrin, the result will not be a jelly, which alone we are accustomed to consider gelatin, but which is really a hydrate of gelatin; the result will rather be, that radicle which we have seen swell into many times its original bulk, when exposed to the action of solvent fluids and heat. Not finding, however, within the current of the circulation, that great amount of moisture essential to its disintegration, it is necessarily and immediately dropped on the tissues where it is required."

In the ensuing chapter, the author develops still further his views of the physiology of the blood, and bases upon them an explanation of the origin of constitutional disease.

"We have already seen," he remarks, "what reason there is for believing that by the agency of oxygen the albumen is converted into fibrin. It is certain, however, as I have already stated, that there is something here beyond a mere chemical operation. We cannot, by exposing albumen to the action of oxygen, obtain fibrin. I have kept them in contact and agitated them together for very many days, without any success. In considering this subject, our attention is mainly drawn to the most striking and most abundant organic principle of the blood, of which I have, as yet, made but little mention, the red globules. Everything in these remarkable bodies points out their great importance. Great, accordingly, has been the attention they have received; and though much has been discovered, yet it has neither been commensurate with the labour bestowed, nor with the importance of the subject. We cannot yet certainly say that we know the use of the globules. We know even nearly as little of their chemical condition as of their physiological office."

"They have been considered by nearly all physiologists, by Henle, Wagner, Wharton Jones, &c., as floating cells, whose office is to elaborate the fibrin from the plasma of the blood. In opposition to this doctrine, Dr. Carpenter has proposed another explanation of the origin of the fibrin, founded certainly on strong and striking facts. He states that the animals whose blood does not contain any red particles, have, notwithstanding, fibrinous tissues, and that fibrin is found in the lacteal and lymphatic vessels, in which its presence cannot be accounted for by the agency of red globules, though white globules are there met with abundantly. Founded on these facts, Dr. Carpenter has advanced the opinion that the white globules are the source of the fibrin.

"The fact of fibrination in white-blooded animals does not present, to my mind, a great difficulty. Where there is a great difference of organization, there may be a difference of office, without impugning that uniformity of the functions of nature which is so general a law. White-blooded animals may receive their white fibrous textures from white globules, while the red muscles of the vertebrates may proceed from red corpuscles. The presence of fibrin in the lymphatics, and thoracic duct, is a greater difficulty. But when I consider the condition of the fibrin in these vessels, its soft and undeveloped form; and when I reflect on the very certain connection which seems now established between the function of respiration and the origin of fibrin, I feel compelled to admit, that it finds its way into these absorbent vessels by direct absorption from the food, and not by excretion from the white globules.

"But the determination of this question seems to me to be, at present, at least, more within the domain of pathology than of physiology. The great changes which take place in disease are accompanied by fluctuations in organized principles which afford very striking indications of the bonds by which they are united to each other. Le Canu showed that a great increase of globules took place in plethoric diseases. Andral and Gavarret proved that in inflammatory diseases, a great addition was made to the fibrin of the blood. Simon following, carried these discoveries out into much detail in a great variety of diseases; but he took an additional step, by proving that the increase of fibrin was invariably attended by a diminution of the amount of the globules, and that this process of fibrination was, in fact, carried on at the expense of these latter bodies."

"Reverting to the pathology of the blood, let us see how far the facts brought to light by Le Canu, Andral, and Simon, coincide with and illustrate the views of the constitution of the blood exposed above. Did the stomach lose its office, and the appetite for food disappear, when the respiratory and assimilating functions are less active, weakness and faintness might result; but the balance of the organized constituents of the blood would still be preserved. Our daily experience, however, proves to us, that not only may a good appetite be preserved, but great gluttonous powers remain in spite of the almost total ruin of healthy assimilation. Though the nutrition of the body be thus, as it were, cut off in the middle, the stomach and bowels may still retain their office unimpaired, and the nourishing fluids be yet poured into the blood, there either to oppress the system, or run into the most painful forms of disease.

"The observations of Le Canu have established the fact, that the point at which the assimilating function stops, when the system is oppressed, is the globulation of the blood. To use the language of the older physicians, remora takes place in the globules. Indeed, nothing can be more striking than the remarkable steadiness of the albumen both in health and disease. Le Canu found the proportion of albumen to vary extremely little in men and women, and in individuals of a sanguine and lymphatic constitution: but he found the mean ratio of the globules in women 99; while in men it rose to 132. In men of sanguine habit, he found the proportion of globules rise to 136; and in women to 126; while in men of lymphatic constitution the same proportion reached only 116.6, but in women it was as much as 117.3. (*Etudes Chémiques*, p. 83.) In scrutinizing the various analyses of the blood in disease, made by Le Canu, Denis, Andral, and Simon, the same great steadiness of the albumen is observed. In one disease only, albuminuria, does it undergo a great change, and then it sustains a diminution. The rule, too, is nearly invariably followed, that

wherever a small addition is found to the nominal proportion of albumen, there is an adequate loss in the globules. Thus, in typhus, Le Canu found, in one case, globules 115, albumen 71; in another, globules 105, albumen 90 (p. 109). In five cases of heart affection, he found the mean of globules as low as 50, and the mean of the albumen as high as 80 (p. 110). In chlorosis, he found the proportion of globules as low as 55, and the albumen at 73; and in the same disease, two analyses made by Allié de Nancy, are quoted by Le Canu, in which the proportion of globules was found 91 and 85, while that of albumen was as high as 86 and 85. These results are fully confirmed by the researches of Andral and Gavarret. They found in a case of cachexia after ague, the globules 68.8, the albumen 72 (p. 75). In a case of diabetes mellitus, the globules 86, the albumen 80. In a case of dropsy from dilatation of the heart, the globules 68, albumen 85. In a case of cachexia following colic pectorum, globules 84, albumen 78. In nine cases of chlorosis, the average of globules 59.6, of albumen 79.5. But Andral and Gavarret have proved the same tendency of the albumen to maintain its ordinary standard in diseases of a plethoric character. They have recorded one case of apoplexy in which the proportion of globules reached the very considerable amount of 175; and in which, notwithstanding, the albumen was still only 73; and in eight cases of the same disease, the average of the albumen was 74.

"It may then, I think, be considered as proved, that though the albumen does undoubtedly alternate with the globules, tending to increase, when they fall off in amount, and to diminish when they abound, yet a much greater degree of stability characterizes it than the other organic constituents of the blood. These last oscillate in a very wide manner, increasing and diminishing with the condition of the system and the health of the individual; when a stasis occurs in the blood, as in plethora, the arrest is in the globules.

"In order to carry out the proof of this point, I desired some rabbits to be fattened for a great many days, and their blood to be examined. The following result affords a sufficient confirmation of the opinions of Le Canu and Andral:—

	Albumen.	Globules.	Fibrin.	In 1000 parts.
1	50.20	97.40	2.10	
2	49.	80.50	1.75	
3	48.20	75.43	1.96	

"The first of these rabbits was allowed its liberty in a room, and was somewhat different in conformation from the others.

"The last two resembled each other generally, in colour, form, bulk, and were closely confined in a box. The influence of this on their fibrin is manifest.

"These organic changes are of much importance in the history of constitutional disease. If the nutrient matters of the food be carried forward to this point, and here, instead of further elimination, be deflected to form lower products than the fibrin and gelatin, which would serve the healthy purposes of the body, we must look here both for our explanation of disease and our guide in the choice of a remedy." "Though I do not believe that scrofula takes its origin in a gouty state of habit, but that, like gout, it is to be referred to an original congenital constitution, an idiosyncrasy of the individual; yet its outward manifestations, its allied disease, tubercle, and many other tumours, may be traced to this source. All these growths abound in albuminous principles. Their progress is favoured by that which lowers the health and disturbs nutrition. The food which ought to proceed to the nourishment of the great organs and moving powers of the body, is interrupted in its course, and diverted to engender morbid processes or add to malorganizations already begun. In some individuals, extraordinary obesity is the result, and where subcutaneous fat only is created, it often serves as a relief to a plethoric habit. In others, low hydrocarbonaceous products show themselves in the urine in the form of sugar or urates. We can thus readily enough account for the striking phenomena of scrofula, phthisis, diabetes, gout, etc., according to the proclivity of the individual to one or other form of disease; nor will it appear wonderful to the philosophic physician, that maladies of aspect so strikingly different, should yet own an origin in some respects common.

"These are not creations of the fancy. They are exemplified in the daily experience of every physician. What observation so common as the origin of scrofula in an impoverished condition of health? Is it not observed that a low quality of food tends to its increase, and a generous diet to its extinction? Does it not infest the close and pestilential manufactory; all low, marshy and mephitic places? Is it not cured by pure good air, as well as by good food? Do we not turn our scrofulous patients out of hospitals, for fear of the consequence to their health? In a pure and wholesome atmosphere the chest is thoroughly expanded, and the necessary changes in the blood well effected.

"In gout the very same influences prevail. Only the tendencies of the constitution being different, the plethorous or superfluous albuminous matters show themselves in different local manifestations. The treatment, too, has various points of resemblance. Both are aided by whatever promotes the real nutrition of the body, and obviates stagnation and load in the vessels.

"The opinions I have expressed above seemed to me to receive considerable confirmation from the fact discovered by Le Canu, that the placental blood contains a great increase of globules; and that the blood of animals of powerful organization and active habits also abounds in them. Seeing these things, and seeing that arterial blood contains more globules than venous, the blood of men than that of women, boys, and old people; the blood of persons of a sanguine than that of those of a phlegmatic temperament; the blood of persons well fed than that of persons badly nourished; the blood of the plethoric than that of the anæmic; I could not doubt that the opinion of Wharton Jones and Carpenter (for in this at least they concur) is correct, and that within the globules the great development of organic principles and their adaptation to the uses of the body is affected.

"But while revolving these things in my mind, it seemed to me certain, that the globulation of the blood was more a vital or organic than a chemical process, and that I should probably obtain an augmentation of globules by stimulating the nervous system, and an electro-magnetic influence occurred to me as the most likely means of accomplishing my object. A rabbit was, accordingly, thus treated; but I was completely disappointed. No matter how moderate the influence used, the breathing of the animal was excited in the highest degree, which prevented all arrest and accumulation of the globules. I obtained, however, a very important confirmation of the former experiments on the effects of oxygenation. A stream of galvanic magnetism was carried from chest to spine for half an hour, at the end of which time the blood yielded 51.2 albumen, 70.4 globules, 2.9 fibrin.

"I have now gone through with the whole of this subject of the chemical and physical constitution of the blood, with a view to prove that rest and repletion lead necessarily to accumulation of globules; that aeration is the source of the fibrin; that by exercise the fibrin is carried forward to the tissues; that by exercise, air, and moderation in diet conjoined, constitutional disease, and particularly gout, may be avoided and cured; that without them it is vain to hope for anything more than a respite from suffering for a greater or shorter period, or even only a suspension of the more acute symptoms of disease. These observations are so consonant with the observations of all men, learned and unlearned, of every age and every country, that they will, I feel persuaded, meet with ready belief."

We must be very much mistaken in our opinion of the deeply interesting character of the views advanced by Dr. Gairdner in the foregoing extracts, if our readers make any objection to the length to which we have extended them.

Admitting the accuracy of those views, and of this there would seem, to say the least, great probability, they afford an important clue to the pathology of constitutional disease, and to the rationale of the operation of the various hygienic means adapted to the prevention and cure of some of the most serious maladies to which the human frame is liable.

The very full notice formerly given of the first edition of the treatise before us renders it unnecessary to enter into any further examination of the present one. From the extracts presented above our readers will be able to form a correct opinion of the more important additions that have been made to it.

D. F. C.

ART. XXVI.—*Operative Surgery, based on Normal and Pathological Anatomy.* By J. F. MALGAIGNE, Professeur Agrégé de la Faculté de Médecine de Paris, etc., etc., etc. Translated from the French by FREDERICK BRITTON, A. B., M. D., M. R. C. S. L. Illustrated by Wood Engravings from designs by Dr. Westmacott. Philada.: Blanchard & Lea, 1851, 8vo., pp. 565.

Most of our readers, probably, are already familiar with this celebrated treatise of M. Malgaigne; having been presented with it in the pages of the *Medical News*. To such as have referred to it, no commendation of ours is necessary. To those who have not done so, it may be sufficient to state, that the original has passed through four or five editions in Paris; that it has been translated into no less than five Continental languages; and that "in the schools and hospitals of Paris, it is used as the standard work by students of all nations." But in order that the scope and compass of the volume may be understood, we shall submit a sketch of its plan and arrangement.

The book is divided into three parts, comprising severally, Elementary, General, and Special Operations.

The first part treats in detail, as is the case with French authors generally, of the best methods of performing incisions, dissections, and punctures; of cauterization—the materials, composition, and modes of applying cauterants, according to the ends to be attained in particular cases; of the various means of arresting and preventing hemorrhage, both during and after operations, including the employment of the ligature, compression, astringents, styptics, cauterants, &c., &c. This section is peculiarly rich in its instructions, as the importance of the subject demands. The manner of effecting union of divided parts is also described in all its varieties; and, finally, we have a chapter on the means of diminishing pain during operations. The measures described here, are the administration of narcotics; "animal magnetism, which succeeded once on a woman whose breast was removed by M. J. Cloquet," and which, we may add, has since proved efficacious in many other operations, but which has now very properly fallen into disuse; distracting the patient's attention by conversation addressed to him; celerity in operating; cutting off nervous communication between the part to be operated upon and the central nervous organs, either by pressure upon, or incision of, the nervous cords. At the time when Dr. Brittan's translation was made, (1846,) the employment of ether and chloroform had not been commenced; these anæsthetics have now superseded most others.

The second part describes the common operations of minor surgery; operations performed upon the epidermis and its dependencies, including many apparently trivial, though really important, procedures; operations on the teeth; those especially affecting the skin and cellular tissue; upon the muscles and their dependencies; upon the nervous system and its dependencies; on veins; on arteries; on the bones and articulations: resections; and amputations. On each of these subjects, all the popular and approved methods of operating are described and, in conclusion, that one is explained which M. Malgaigne's judgment and great experience lead him to consider the best, together with the reasons for such preference.

Part third is devoted to the description of special operations, practised upon particular regions or organs. This comprises operations upon the eye; the auditory apparatus; the nasal region; the mouth and its appurtenances; the throat; the thorax; the abdomen; the rectum and the anus; the genito-urinary organs of both sexes.

The translator has added notes to the text with references, containing the details of some few operations omitted by the author, and of others which have been published since the date of the last French edition. The opinions and preferences of the most celebrated English surgeons, where they differ materially from those of M. Malgaigne, have been also introduced, so that the present volume may fairly be considered "an encyclopædia of the operative surgery of Europe."

F. W. S.

ART. XXVII.—*The Principles and Practice of Obstetric Medicine and Surgery, in reference to the Process of Parturition.* Illustrated by one hundred and forty-eight figures.—By FRANCIS H. RAMSBOOTHAM, M. D., Fellow of the Royal College of Physicians, Consulting Physician in Obstetrics, and Lecturer on Obstetric and Forensic Medicine at the London Hospital, etc. etc. The sixth American, from the Enlarged and Revised London Edition. Τὰ μὲν ἀλλα μὲν πολεμος καὶ μεταβολὴ ταχὺς ἀνάλογος ἢ Τίτην δὲ οὐδέτεν. Philadelphia, 1851: Blanchard & Lea. 8vo. pp. 540.

THE opinion advanced by us in reference to the value of Dr. Ramsbotham's treatise, as a systematic exposition of the principles and practice of obstetrics, in our notice of the first edition, has been fully confirmed by the very favourable reception the work has received both in Europe and the United States, and the demand which has been made for a new and revised edition, notwithstanding the numerous complete and valuable treatises on the same subject that have appeared within a few years past.

The present beautiful edition of Dr. Ramsbotham's work is printed from the last London edition, carefully revised by the author, and enlarged by the addition of a concise but very able sketch of the diseases of the pregnant and puerperal states, and of the interesting subject of abortion. Some valuable statistical tables, afforded by the practice of the Royal Maternity Charity, are appended to the volume.

The whole of the illustrations, including the additional ones introduced into the last London edition, have been drawn anew, and will compare with, if they do not excel in beauty and accuracy, those to be met with in any work of a similar character with which we are acquainted.

We recommend the present edition to the student and young practitioner of midwifery, as one of the best guides they can consult, to the principles and practice of the art.

D. F. C.

ART. XXVIII.—*Medical Lexicon. A Dictionary of Medical Science; containing a concise Explanation of the various subjects and terms of Physiology, Pathology, Hygiene, Therapeutics, Pharmacology, Obstetrics, Medical Jurisprudence, &c., with the French and other Synonyms; Notices of Climate and of Celebrated Mineral Waters; Formulae for various Official, Empirical, and Dietetic Preparations, etc.*—By ROBLEY DUNGLISON, M. D., etc. etc. Eighth edition, revised and greatly enlarged. Philadelphia, 1851: Blanchard & Lea. 8vo. pp. 927.

THE medical student owes a debt of gratitude to Dr. Dunglison for the preparation of a medical lexicon so well adapted to assist him in the acquisition of the true import of the various technicalities made use of in the different departments of medical science. Nor will the physician find the dictionary of Dr. Dunglison a useless incumbrance upon his reading table. In the perusal of medical authors, of even a comparatively recent date, technical words frequently occur, a definition of which would be extremely acceptable to many readers, and such definition they may obtain by a reference to the present work. There are very few terms that occur in even the most extended course of professional reading that have escaped the notice of the compiler, and the correct meaning of which he has not given. The industry exhibited by Dr. Dunglison in the collection of the various technicalities that have been introduced into the several departments of medical science, as well by the older writers as by modern and contemporary authorities, is indeed surprising. Even when it might be supposed that he had exhausted the technical vocabulary, each successive edition of the Dictionary exhibits a very considerable addition to the

terms contained in the preceding one, amounting in the edition before us, to four thousand terms not to be found in the last.

It may be said that by the student and physician whose preliminary education has been such as should be demanded of the aspirant for, or the actual possessor of the honours of a learned profession, no such aid as that afforded by the lexicon of Dr. Dunglison would be necessary. If nothing more were required in reference to the several terms of art made use of by medical authors than simply their etymology, the remark would be perfectly true. As, however, the technical application of professional terms is in but a few instances indicated by their etymological meaning, the Greek and Latin, the French and Saxon learning of the reader will fail to reveal to him the true meaning of those terms. We recollect very well the disappointment we experienced when, in the early period of our medical pupilship, we consulted the otherwise excellent lexicon of Baily, for the meaning of *haematocele*, *sarcocele*, and *hydrocele*, we found no other definition than "haematocele, from *αἷμα*, blood, and *τοῖνη*, a swelling—a tumour formed by effused blood;" "sarcocele, from *σάρξ*, flesh, and *τοῖνη*, a swelling—a fleshy tumour;" "hydrocele, from *ὕδωρ*, water, and *τοῖνη*, a swelling—a tumour containing water." By comparing these with the definition of the same terms as given by Dr. Dunglison, the difference between a mere etymological and a technical definition will be perceived, as well as the necessity of the latter to meet the object with which a medical lexicon is alone consulted.

D. F. C.

ART. XXIX.—*Special Anatomy and Histology*. By WM. E. HORNER, M. D., Prof. of Anatomy, University of Pennsylvania, &c., &c. Eighth edition. Illustrated with anatomical figures. 2 vols. Philadelphia: Blanchard & Lea, 1851, pp. 510 and 500, 8vo.

It is quite unnecessary to say anything in commendation of a work which has gone through seven editions, and which has, therefore, received the stamp of the profession as to its value; and as we have, moreover, on former occasions noticed the successive editions of this Anatomy of Dr. Horner, it will be sufficient to state that in the present one he has introduced such improvements as the progress of anatomy required, and added more than *three hundred figures*, many of them taken from nature, and intended to illustrate the author's peculiar views on points of anatomical structure.

Useful as were the former editions, the present one will be found more so, and to present greater claims to the favour which the profession has bestowed on its predecessors.

ART. XXX.—*The Elements of Materia Medica and Therapeutics*. By JONATHAN PEREIRA, M. D., F. R. S., and L. S. Third American Edition, enlarged and improved by the author, including notices of most of the medicinal substances in use in the civilized world, and forming an Encyclopaedia of Materia Medica. Edited by JOSEPH CARSON, M. D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania, &c. &c. Vol. I.: Blanchard & Lea, 1852. 8vo, pp. 838.

The Dispensatory of the United States of America.—By GEORGE B. WOOD, M. D., Professor of the Theory and Practice of Medicine in the University of Pennsylvania, &c. &c., and FRANKLIN BACHE, M. D., Professor of Chemistry in Jefferson Medical College of Philadelphia. Ninth edition, carefully revised. Philadelphia: Lippincott, Grambo & Co., 1851. 8vo, pp. 1450.

We have only room, at present, to call the attention of the profession to the editions just issued of these valuable and well-known works, which in our next number we propose to notice more particularly.

The present edition of the first volume of Dr. Pereira's work bears the marks of careful revision. Several portions of it have been entirely rewritten, and every part carefully corrected. Numerous recent discoveries in natural history, chemistry, physiology, and practical medicine relating to *materia medica* have been introduced into it, and also all the improvements and emendations made in the recently-issued edition of the United States *Pharmacopœia*, thus rendering it beyond question the most comprehensive and accurate treatise on the subject in the English language.

We are told that the second volume is in press, and will be published in the course of the summer.

In the ninth edition of the United States *Dispensatory*, the authors have made many additions and changes, rendered necessary by the recent publication of new editions of the United States *Pharmacopœia* and of the codes of London and Dublin, and have carefully revised the whole work, so as to maintain the character of the work for fulness and accuracy. This volume is indispensable both to the American medical student and practitioner of medicine.

ART. XXXI.—*The Physician's Visiting List, Diary, and Book of Engagements for 1852.* Philadelphia: Lindsay & Blakiston.

WE take pleasure in calling attention to this very useful and convenient little volume. It contains an almanac for the year; a table of the proportionate doses of medicines for different ages; a list of poisons, with their antidotes; the code of ethics of the American Medical Association; blank leaves, ruled and with the appropriate headings, for a visiting list for every day in the year, for memoranda, &c., for addresses of patients, for engagements, for wants, for list of things lent, &c. &c. With this in his pocket, the practitioner has always by him his list of patients, his professional engagements, and his day-book, as well as a diary for memoranda. It will, we are confident, be found so convenient, that those once using it will not hereafter be willing to be without it.

ART. XXXII.—*A Treatise on the Dislocations and Fractures of the Joints.* By Sir ASTLEY COOPER, Bart., F. R. S., &c. A new edition, much enlarged. Edited by BRANSBY B. COOPER, F. R. S., &c., Surgeon to Guy's Hospital. With Additional Observations, and a Memoir of the Author. A new American Edition. Philada.: Blanchard & Lea, 1851. 8vo., pp. 496.

THIS eminently practical work is too well known for it to be necessary to do more than state, that the present edition embodies the results of the large experience and observation of the author during his whole life, published with the advantage of the supervision of his distinguished nephew, and that it is also enriched with some highly valuable observations, by one of our own most experienced and illustrious surgeons, John C. Warren, M. D., of Boston.

No medical library can be complete without a copy of this work.